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GAME NEWS

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COVER PAINTING BY RON JENKINS

The snowy owl is a rather rare and irregular visitor in our state, though it sometimes is seen when food is scarce in its home territory to the north. It is a bird of the open fields, not of the woodlands, and often may be seen perched on a fence post (as shown on this month's cover), haystack or on the ground, rather than in a tree. For more on the snowy owl, see pages 8 and 9.

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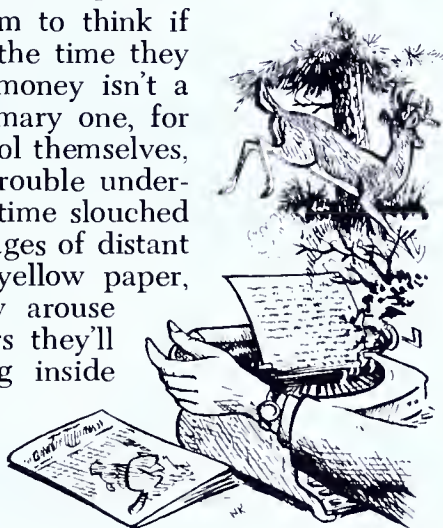
Writers . . .

A NEW YEAR starts with this issue—the thirty-ninth for GAME NEWS, which makes it one of the oldest, if not *the* oldest, conservation magazine in the country. An awful lot of informative articles and entertaining stories have appeared in these pages during the past thirty-eight years, we believe. And since the arrival of a new year is the traditional time to make resolutions, we might offer one: to continue to present the highest quality outdoor writing we can find.

In all truth we might point out that in the past we've never been one to go overboard making resolutions—or keeping those we did happen to voice. But times change. And the fact of the matter is, we have a hunch this one won't be too hard to keep. The reason is simple. We have a large number of outstanding writers whose loyalty to GAME NEWS is sort of astounding. Some of these started their writing careers with submissions to this magazine twenty-five or thirty years ago—and are still writing for it. I doubt that many editors are so blessed. It always gets the day off to a good start to see a new story from a longtime writer on my desk in the morning. No matter if it was done on assignment or comes in on speculation, we know it's going to be an interesting and well-written piece.

It's perhaps even more exciting to open a large manila envelope bearing a return address that's unfamiliar, read the enclosed manuscript, and realize that here is a brand-new writer who belongs in the pages of GAME NEWS. This happens a number of times every year, and doubtless 1968 will be no exception. And if past history is any guide, the chances are good that some of these will be writing for GAME NEWS a quarter century from now. This is a very satisfying thought. Ultimately, of course, the success of any publication depends on the writers who contribute, so we fully expect that this magazine will be going stronger than ever in years to come.

And so, for past efforts and future expectations, we'd like to take a moment to express our thanks to our contributors. Writers seldom get thanked for their work. Most people seem to think if they get paid that's enough, but considering the time they put in and the frustrations they sweat out, money isn't a full reward. We don't even think it's the primary one, for darn few people make enough cash at it to fool themselves, let alone their spouses, who doubtless have trouble understanding how anyone can spend all his spare time slouched in front of a typewriter, translating mental images of distant game fields into black characters on cheap yellow paper, hoping what they whittle out will somehow arouse emotions in hundreds of thousands of readers they'll never see. But they keep trying. Something inside makes them. And we appreciate it—this year, and next. . . . *Bob Bell*





A Collar for Laura

By Albert G. Shimmel

IT WAS LATE afternoon when the sun broke through the thinning clouds. Three inches of new snow capped the clumps of marsh grass and clung to the frost-thickened hemlocks that bordered the high swamps of Quehanna. The waterways that crept out of the swamps to form a chain of beaver dams were icelocked except where springs made irregular patches of dark water that accented the cold whiteness.

In a little bay just off the largest dam a spar pine angled acutely into the dark water. Its top was half buried in the muck. Above, pitch-hardened spikes marked where limbs once had grown. A jumble of floodwood filled the angle behind the spar and covered the bank.

Vison, the mink, emerged from an abandoned muskrat den hidden under the drift, climbed through the grotesque tangle and peered over the spar at the weak sun that seemed impaled on the powdered spires of the hemlocks across the dam. He stretched, yawned widely, his teeth sharp white silhouettes against the dark cave of his mouth.

Nothing Visible

Nothing moved within the range of his vision except the thin, white spiral of his breath. Satisfied, he climbed up on the spar, moved with slow undulations to a knot that projected over the dark water. A keen observer might have detected the slight unevenness that marked his gait. Examination of the paired tracks would have disclosed that instead of a furred pad the right foot ended in a stub, but the sleekness of his coat and the speed of his movement indicated he was little handicapped by his loss.

He arched his back, made a final

inspection of the surrounding whiteness and then slipped into the water with barely a ripple. He swam to the edge of the ice, ducked his head and submerged.

A solitary pickerel lounging beside a sunken log waited for a school of suckers to come within striking distance. Suddenly, the fish was alerted as he felt the steady beat of the swimming mink pulse through the cells of his sensitive lateral line. His brain registered danger. With a sweep of his powerful flukes he shot away, scattering the stupid suckers before him. Panic sent one of the fish toward the mink. With an easy swirl he caught the fish and killed it with one swift bite.

Hunger Unsatisfied

The fish served to blunt the edge of his appetite but did not completely satisfy. And with the sun gone, the sharp drop in temperature increased his hunger. The urge drew him across the ice in the direction of the thickets.

He found a thread of grouse scent and followed it to the spot where the bird sat out the storm. He found the snug igloo on the lee side of a white birch where the snow had heaped into a drift. The bird had left its retreat only minutes before and was now a silhouette against the sky as it fed on the buds of the very birch under which it had roosted. Vison sniffed the fibrous droppings and snarled at the bird perched safely out of reach.

Disappointed, he searched along the thickets, investigating the caverns under arched roots, grassy tussocks and protected runways. Farther down the chain he had a second den in the base of a hollow maple. Here he had cached a mouse, half a muskrat car-



AFTER THE STORM, the flock of wild turkeys waded the brook, filled their crops and went to roost. As Vison humped through the snow, they watched inquiringly.

cass and a junco. He turned from the empty thickets in the direction of the maple.

A sand spring bubbled from the base of a slope that jutted toward the pond. Even in winter, moss and sprigs of cress greened among the pebbles of the brook. Wild turkey frequented the brook to gather gravel and glean the tender greenery. When the storm had ended, three of the flock waded the brook, filled their crops and had gone to roost. As Vison humped through the snow they watched from their perch, perking inquiringly and craning their necks with interest. They saw him pause, sit upright and sniff the air. In a second he dropped, whirled in his tracks and was gone in the direction of the lower pond.

Why should the odor of fresh fish and mink musk startle this fearless little predator into panic-stricken flight? In the recesses of his mind these odors were indelibly associated with the loss of his foot. . . .

Harry Mak emerged from the thicket, slitting his eyes against the glare of the rising sun. He glanced at the paired tracks, recognizing them by the missing foot. He noted their direction and read the animal's every move with the uncanny accuracy of a trained woodsman. Mak set a few traps each season. It was an excuse to be out of doors rather than any thought of monetary reward that motivated this activity, though he had been hoping to get a nice mink to make a fur collar for his granddaughter, Laura. Since his retirement he continued to range the area where he had served as Game Protector.

The mink had already lost its foot when it came to Quehanna two winters before. Its above average size, the aggressiveness with which it held the territory and the cunning with which it avoided traps, set it apart from others of its kind. Several females had dens within the circumference of his range. These he visited during the mating season and tolerated at other times. Interlopers that wandered up from the Mosquito Creek ranges to the south or the Sinnemahoning ranges to the north were promptly sought out and either driven out or killed. Hidden traps he avoided with uncanny skill. Conventional scents and baits he ignored. To Mak he was a challenge.

Sucker for Bait

A week before the woodsman had waded up the brook and bedded a steel trap close to the bank where the water from the spring would keep it from freezing. He hid it carefully, using moss and sand from the stream to camouflage his work. A foot above the water he pushed out a cavity using a bit of waterlogged root for a tool. A freshly caught sucker was the bait and a drop of musk completed the set. . . . Vison's tracks led in that direction.

Twenty yards from the spring the tracks turned aside. Mak read in the

lengthened bounds the fright that bordered on panic. In the trap he found a young mink. The youngster had investigated the intriguing combination of odors and placed both front feet in the hidden trap.

Mak removed the animal and, holding it by the feet, shook as much water as possible from the fur. The pelt was thick and glossy. Mak admired it before dropping it into his pack basket. He reset the trap. Vison's wariness piqued him. He waded down the brook and again followed the trail of the three-footed animal.

Built Deadfall

Satisfied that the mink was following its usual practice of hunting down the chain of beaver dams, Mak left the marsh and thickets for the easier walking of the higher ground. A mile below he cut back to the now sizable stream formed by the overflow from the last pond. Here the stream was bridged by a log. A pile of floodwood heaped against one bank blocked access to all but the smaller animals.

Mak had spent two winters studying the range and habits of Vison. Late the previous summer he had built a deadfall of weathered logs and twisted wood artfully blended with the heaped floodwood. It was a trap skillfully contrived after an Indian pattern. The trip-stick was a weathered root and the fall cord twisted from the inner bark of a basswood sprout. Any creature that crossed the log and sought to enter the tangle must pass under the fall, depress the trip-stick and release the fall. The heavy log would kill instantly and humanely. Mak had blocked up the fall and left it to the mellowing touch of the weather.

Now he grinned with satisfaction. Vison's tracks dotted the log, led under the fall and accented the snow beyond. Mak pushed back his battered hat and rubbed his forehead as he calculated. The mink would not come this way again for a week or ten days.

A storm might accelerate his visit by a day or two, Mak thought. Plenty of time to prepare. The animal would follow the same route, and. . .

A week before Mak had live-trapped a pair of deer mice. He had imprisoned them in a cage improvised from a hollow tree branch. With shredded bark for a nest and an ample supply of food and water they had settled down to a life of comparative luxury. The wood had become so saturated with mouse urine that even Mak's dull human nose could detect it at a distance of several yards.

Late that afternoon Mak carried his prisoners to the stream. Standing in water he pushed the cage under the driftwood with the aid of a long stick. He unblocked the fall and adjusted the trip-stick to the nicety of a hair-trigger. It was a perfect set. Even the tracks of Vison's earlier visit were undisturbed. Everything was complete. Mak was content to wait. . .

All morning the overcast deepened.

VISON HAD ALREADY lost his foot before he came to Quehanna two years earlier, but he was scarcely handicapped by the injury.



Far back in the Quehanna Swamp a horned owl hooted, its call muted by the distance. Another answered from a dead birch at the edge of the upper pond. Mak read in the regularly spaced calls both a hint of the coming storm and the urgency of mating season. Even as he listened, the first fine snow slanted in from the east. In five minutes his jacket was dusted with white and the outline of the distant trees was beginning to dim. Mak thought of the deadfall. The storm would make his work complete. . . .

Vison came out from the abandoned woodchuck burrow where he had slept out the storm. Below was the beaver dam that marked the beginning of Mosquito Creek. He investigated the dam without results, then suddenly had an urge for the open water of the stream below. He started a snowshoe hare from a clump of blueberry bushes and followed the trail, drinking in the scent and thrilling to the hunt. He was not particularly hungry so when his quarry crossed the dam

MAK HAD LIVE-TRAPPED a pair of deer mice and imprisoned them in a cage. They would be the bait for the wary three-legged mink, after he made the deadfall ready.



and plunged into a thicket he turned away, leaving the frightened creature to find a new squat.

Familiar Landmarks

As Vison moved down the chain of beaver ponds he visited familiar landmarks to renew the musk signs that marked the territory as his own. At times he rolled over and over in the snow out of sheer excess of energy and well-being. The sharp cold brought anxiety and hunger to many creatures, but he reveled in the luxury of his warm coat and coordinated power. Once he stalked a flock of tree sparrows as they fed among the snow-bent weed tops. They fled at his rush. His eyes glittered with excitement when a tardy riser escaped his teeth by scant inches. At the edge of a pine thicket he almost caught a red squirrel that feasted at its midden of cones. It fled to a high branch and chattered with tail jerking vigor until Vison loped away.

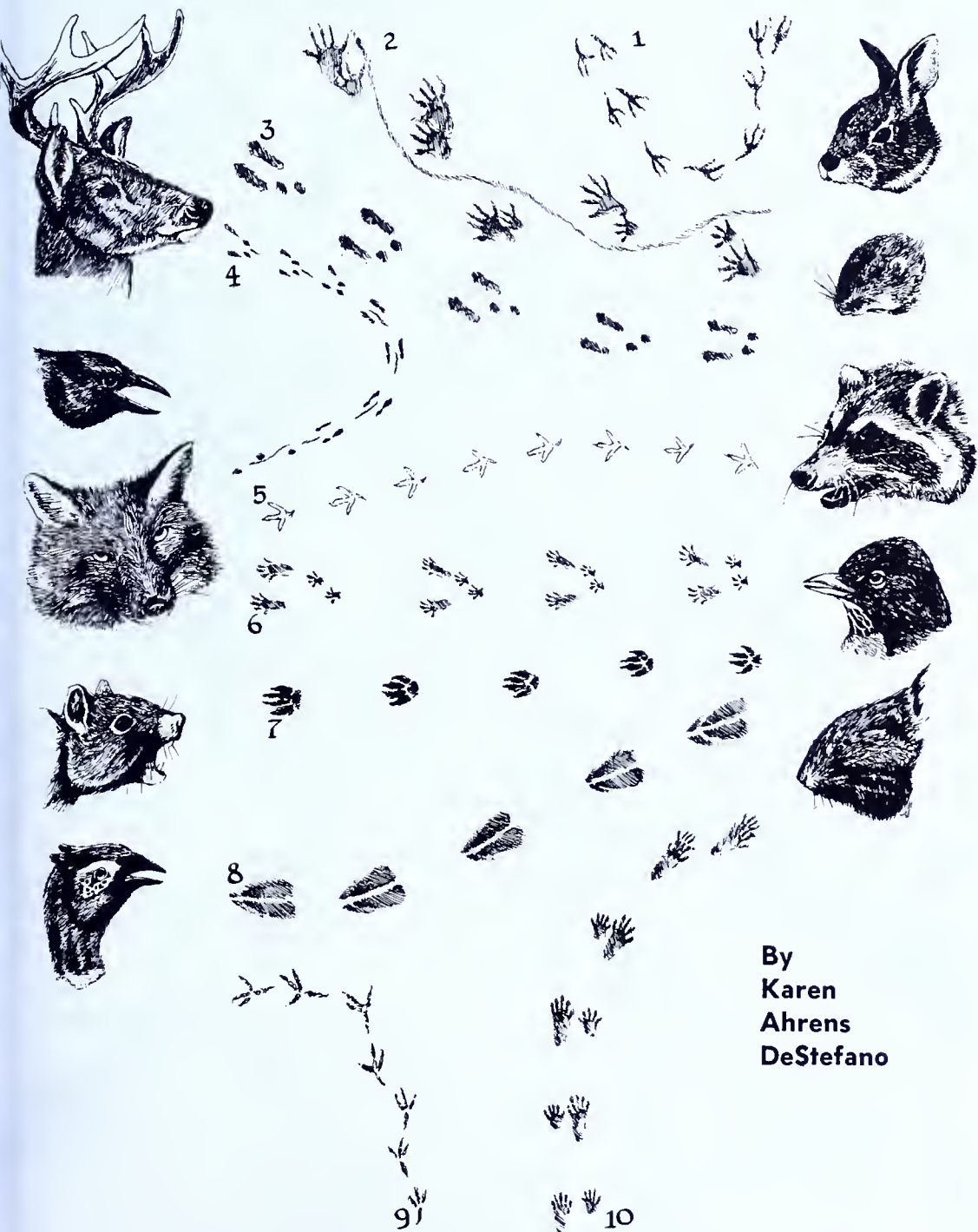
He didn't regret the squirrel's escape. Nor the sparrows'. He was too full of the satisfaction of being alive on a day like this. Still, he did have to eat and when something came along—

He reached the overflow of the lower dam and was about to enter the water when his head jerked at the smell of mice. His ears registered the faint sound of gnawing teeth. He paused, tested the air then leaped along the log toward the driftwood tangle. At that moment the sun changed the snow to painful brightness. . . .

Mak turned away leaving the deadfall unset. He did not drop the mink into his pack but carried it in his hand. At times he stopped and ran his hand slowly over the lustrous pelt. Quehanna would not be quite the same he thought, with a tinge of regret. Then he smiled, picturing the pleasure a fur collar would bring to his small granddaughter, Laura.

What Disturbed the Snow?

Can You Match the Animals With Their Tracks?
Write the Correct Name by the
Appropriate Footprints, Then See Page 54 for Answers



By
Karen
Ahrens
DeStefano



The Snowy Owl

By Russell S. Orr

FOLKLORE and legend alike say, "The owl is a wise old bird." The snowy owl must be wise. Otherwise, how would he multiply and how would he be able to return to the same wintering place year after year?

A glance out of my rear window recently confirmed the fact that the family of snowy owls which has visited the neighboring farm for many years was starting to arrive. While it is true that only one bird was seen, judging from the steady increase noted in the size of the "family" in recent years, there may be as many as seven or eight snowy owls visiting us this year. There were six hunting daily in the swampy meadow between the rear of our house and the next farm last year. The number of owls has increased by one bird per year for the last four or five years.

That's really not a bad increase at all, when one stops to consider all the troubles facing the owls before they return to their wintering spot. First, from four to eleven young are hatched to an adult pair each summer. They are born somewhere between the Bering Sea and Greenland and no farther south than the northern part of Ungava, Quebec.

The nests are built in open tundra country. Only rarely are they built where there are any trees. The incubation period is about 32 days, with the female sitting on the eggs. The nests normally are no more than depressions in the ground or on a rocky ledge. The young owls are born blind and completely helpless.

The adult's size—a length of some 27 inches and a wingspread of up to 66 inches—unquestionably is in the snowy owl's favor, particularly those which winter as far south as Georgia and California.

As with most predacious birds and animals, the snowy owl is blamed for considerably more killing of domestic livestock than actually should be charged to him. While it is true that on rare occasions, when chickens and other domestic fowl are left unprotected during particularly severe winter weather, the snowy owl has been known to attack these domestic birds, this would be the exception rather than the rule. An examination of the stomachs of 38 snowy owls, 33 of which were taken within the United States, showed 18 with mice, 12 empty, 9 with non-game birds, 2 with game birds and 2 with small mammals other than mice.

Normal Diet—Mice

Although the snowy owl occasionally may attack domestic fowl left unprotected during cold weather, its usefulness far overshadows the little damage done. Normally, the snowy owl will eat enough mice and lemmings in the north country to help maintain a balance which prevents the rodents from eating too much of the natural vegetation of the lands of that part of the country.

The adult female snowy owl may reach five pounds in weight. The male is slightly smaller. They will vary in coloration from pure white to a reddish or grayish brown flecking on the wings. The young will be considerably darker. The legs are well-feathered. Ear tufts are completely lacking.

Their ability to hear and see mice is uncanny. When the snowy owl is not hunting mice from the air, it very likely can be seen perched on a fence post, haystack or some other rather low perch which it has found near the marsh or meadow it has chosen as its favorite hunting spot.



Not Everyone Understands There's a Lot More to Hunting Than the Game That's Bagged, but That Was Only Part of . . .

Old Dan's Lesson

By Mort Levy

STERLING FISK waited where Dan Waters had placed him, his back against an oak that leaned its great weight uphill, his rubber boots planted against twin saplings that forked in the opposite direction. From inside this triangle he had a clear view through the oak stand down to the corner of the meadow, where surviving stalks of wild buckwheat poked through the snow, and the dark rubble of a native stone fence stopped short of the gray woods like an unattached shadow. A fine rain ticked softly on the crusted snow, and in the early light Sterling watched the drops coat the undersides of icy branches, then hesitate as though uncertain whether to fall or freeze. He had believed he would mind the cold, but the long johns and Dan's coffee were working wonders. In fact, he felt strangely alive, despite no sleep, and he wondered if any man slept well the night before a hunt. Even old Dan had done some tossing.

Stretching forward, Sterling searched for his part-Senecan partner, but the woods above the meadow were still trading black for gray, and he soon gave up and resumed watching the small corner of field visible to him.

"That's where they'll come," Dan had said. "The does first, and then, if you're lucky, the bucks."

"The eight-point?"

"Maybe. But don't go turning up your nose at the four-point or spike." Then he had paused and cleared his throat the way he did whenever his words embarrassed him. "Just shoot clean, not crazy. That's important too. Without a clean shot the rest turns sour."

Funny, the way the old guy talked sometimes. He'd ramble on, spouting the wildest yarns or woods lore, then suddenly say something that went right to a man's fiber. The words might not even make sense, but they touched deep, like some eternal truth, and always they left Sterling feeling painfully unfulfilled. Like in Philly, two weeks before, when Dan's views and tales over the dinner table had combined to make him feel less of a man somehow. Why was that? He was married, a family man with a forty thousand dollar home and a fifty thousand dollar job. Yet he had felt inferior and envious of a man who admitted making less than five thousand a year. Why was that indeed? The answer eluded him, and he let his mind slip back to an earlier afternoon in Philadelphia when Cal Burnes had conned him into being a third at dinner.

Needs Help

"Look, you gotta help me," Cal pleaded over the phone. "What I know about hunting you can slip into an envelope."

"Sorry, buddy, I'm an investment broker, not a frontier scout. Your agency won the publicity job for the Sportsman's Show, and squiring the star attractions around town is your baby, not mine."

"But if we can't talk to him, at least we can talk to each other. I mean, the guy's half-Sioux or something. He's liable to grunt the night away."

"He's a real Indian?"

"He's more than that. He's a hotshot with a muzzle-loader."

"A what?"

"And he makes birch bark canoes. And he even built his own home out in the woods, a log cabin yet. A guy like that might order dinner in sign language. You gotta help me, Sterl. Between the two of us, we can manage for a couple of hours. Alone, I'll be sunk—or scalped."

So he had given in and gone to dinner. To help a friend, he told him-



DAN WATERS proved to be a tanned, leather-cheeked man with blue eyes who didn't resemble an Indian at all. And his hunting philosophy disturbed his sophisticated friends.

self, but deep down he was curious to see what kind of person could still chop down trees and shape them into a home.

That person proved to be a tanned, leather-cheeked man with blue eyes who didn't resemble an Indian at all. And the dinner was a very pleasant affair with good man talk and not a few jokes. Dan, in an off-the-rack blue serge, did most of the talking, and they, in their two-hundred dollar, Ivy League uniforms, listened amused and amazed. Except, once in awhile, the old guy drifted off the track in the midst of a story and said things that puzzled them. Like one vague bit

about hunting being necessary.

"Right, I read about that once," Cal said. "It's to keep down the deer herds."

"No, I meant something else. I meant that it was all that fellas like you have got left."

"Really?" Cal said. He winked at Sterling.

"I don't follow you," Sterling said, but Dan now was telling about a three-legged fox he had been trying to catch for the past five years.

"Hey, that wasn't so bad after all, was it?" Cal said later, driving Sterling home. "I mean, when he wasn't spouting that weird philosophy, he was great. And he's wowing 'em with that muzzle-loading routine at Convention Hall."

Old Man's Parting Words

But Sterling's mind was on the old man's parting words.

"You really should come upstate for buck season," Dan had said. "I'd be pleased to have you, and there ain't no better way for a man to feel the way he oughta."

"You mean if we bag a deer, we'll feel better?" Cal asked.

Dan cleared his throat. "It's more'n just the shooting. It's . . . the doing, if y'know what I mean."

Dan did not look at them when he said it. He had put his emotions into words but had not known how to carry it off without feeling foolish. When he tried again, his eyes and his voice, with its bit of old man's rasp, were woefully sincere. "I look around mc everywhere—especially in the city, especially in this citified world—and I see that hunting is really all a man has got left."

"Right-o," Cal said and winked again, but Sterling shook Dan's hand and promised to think about the invitation.

Now the rain had stopped. The sun cleared the ridge behind him, and Sterling watched a gray squirrel leave

its nest with a fine leap onto a pine bough that whipped up and down, loosing a spray of snow. Righting itself, the squirrel leaned over and fired insults — *chik-chik-chik* — at his observer. Then spiraling brazenly down the tree, he skittered off to poke beneath the snow farther down the slope. Higher up the mountain a flock of noisy crows abandoned their roost and flapped indolently toward unseen fields. A second squirrel scampered by on Sterling's left, and a tiny black and white bird flitted out of nowhere to cling with spread toes and stiff tail to a tree trunk — and was just as quickly gone again. A different world, Sterling thought. One that let him see his own sterile world better. That let him appreciate—treasure—his being a part of this one, if only for a little while.

Ridiculous . . .

"Well, I think it's ridiculous," his wife had said when he finally made up his mind. "It's stupid for a grown man, a businessman who's spent practically his whole life in the city, to want to go prancing around the woods after a silly deer."

But Dan had called it necessary, and now for the first time Sterling believed it was really so. He leaned forward, looking once more for Dan, and this time he spotted him propped against an oak maybe sixty yards over and higher up the slope. He was cradling his 30-06 with one hand and pointing downhill with the other. Sterling turned his head toward the meadow. Mist still hugged the ground, although it had grown thinner. He looked back at Dan and shrugged. The old man gestured again. This time Sterling peered between the forked trees — and there they were. Three does, no, five, clumped together just inside the woods. They were staring straight at him, necks high, ears spread. Sterling froze.

"Don't move," he commanded himself. "If you move, may you rot in the suburbs forever."

In his rigid pose he grew more aware of the December chill. His eyes watered, and he breathed carefully through his mouth to keep down the vapor. His legs began to do a little dance, and he pressed hard



STERLING FISK watched a gray squirrel leave its nest with a fine leap onto a pine bough that whipped up and down, loosing a spray of snow.

against his thighs with the rifle. But his excitement was too great. For the first time in his life he felt absolutely on his own. Even Dan seemed a thousand miles away.

C'mon, he thought, where're your boyfriends?

One doe lowered her head, swinging it from side to side, to inspect him through the brush; then suddenly she shook her flag and began to browse. The others followed suit.

Nice goin', Sterl, he thought with a grin. You're a regular Dan'l Boone.

Only his legs were twitching like mad, and he had a fierce desire to scratch his head.

For gosh sakes, hurry up, will ya? he pleaded silently.

Suddenly the deer bounded a short



STERLING SAW THE V-SIGHT against the buck's tawny hide, and swung it ahead on the shoulder. His entire world was reduced to this moment. . . .

way uphill, then just as abruptly broke right and commenced to walk single file up an open slope. They moved with silent grace, and Sterling admired them as long as possible from the corner of his eye. Then he concentrated once more on the meadow. The impulse to attack his itch was overpowering, but in the same instant he spotted another deer by the stone fence. All he could make out were the hindquarters. He wrapped his thumb around the Winchester's hammer.

"C'mon, baby," he whispered.

The deer quit its cover and angled cautiously toward the trail taken by the does. Sterling spied the rack immediately. The four-pointer. His heart went into overdrive, and he did not even wonder about the eight-point. His entire world had been reduced to this spot, this moment.

Sterling saw the V-sight against the buck, and Dan's advice rippled through his mind. Shoot clean, not crazy. Take him when his head's down

or when he's moving from behind a tree. But shoot clean. He puffed his cheeks and blew, trying to dissipate his tension. The buck would cross in front maybe forty yards downhill. Should he fire then or wait until the deer was farther uphill and closer on his left? The buck walked behind an oak, and Sterling raised the carbine and tucked his elbows against the insides of his knees the way Dan had shown him. Without taking his eyes off the oak he saw his breath spreading a dull film over the barrel. The tremors in his thighs grew worse. So this was how it felt to be reminded that a man can still endure on his own, he thought. That, if necessary, he can survive without the services of a butcher or real estate agent. It was something, he realized, that a man had to demonstrate to himself in order to keep feeling like a man. Not every day maybe, but at least once in awhile. It was a necessary part of being a man, and hunting was the

best way to do it. The only way, really.

The buck paused behind a windbreak to peer downhill. Only his turned head and forelegs showed, but from the windbreak it was only a few feet to a giant oak, and when the buck stepped from behind that tree. . . .

Waiting . . .

"I'm waiting," Sterling whispered, and suddenly he knew that Dan in his embarrassment had not expressed his feelings accurately. It wasn't the hunting so much as it was being able to hunt in a citified world that conspired to keep men from doing anything on their own. Once, a man did his own protecting and plowing and building, but now it was all done for him. Now there were institutions and armies, supermarkets and department stores. Everything came gift wrapped and ready to serve, and only a few Dans could still do it all, or most of it, by themselves. But for those who could

not, for the millions of Sterling Fisks—at least the ones who cared—there was only the hunting, the once-a-year chance to rediscover that being able to do something on your own was still very much a part of manhood indeed.

"So if you'll be so kind," Sterling said, and the buck, as though comprehending, started uphill again. Sterling's heart pounded faster, and it pleased him to know that whether he scored or not, this would be his moment of fulfillment. His wife would not understand, of course. Neither would men like Cal Burnes. But Dan understood, and more important, so did he—now. He would be back next year and all the years after.

"So if you'll be so kind," he repeated, and he sucked in the cold air and let out half, just as Dan had taught him, and when the buck stepped cautiously from behind the giant oak, he gently squeezed the trigger. . . .

Archers Break Record

Pennsylvania archers wasted no time in smashing all previous records for white-tailed deer harvested during the past bow season.

Incomplete returns for the regular archery deer season September 30-October 27 showed that more than 2500 whitetails were tagged. It must be emphasized that these were *incomplete* returns for the *regular* archery season. The previous record for total harvest by bowbenders was 2337, established during the 1966 license year. But that record included all deer taken by archers during the regular archery, regular gunning and late archery seasons. The first 2500 whitetails tagged by bowmen this past fall came during the four-week regular archery season.

Nonresident archers also set a new record during the four-week season when they reported taking 473 deer. This figure, too, was an incomplete tabulation. The old mark for nonresidents was 304, set in 1966, and included all deer taken by nonresident bowmen during the regular archery, regular gunning and late archery seasons. Nonresidents took more than one-third of all whitetails harvested by archers in Potter County during the regular archery season.

Complete tabulations on the state's deer harvest for the past seasons will be ready in a few months.



Winter Time Is Rabbit Time!

By Bob Carter

FROST MADE a thick, white crust on the thistle stalks and elderberry bushes beside our barn. Daylight was breaking. It was Saturday—no school—and even the six below zero temperature wasn't keeping me from going hunting that morning. What 16-year-old hunter is ever deterred by mean weather?

Wow! It was really cold, though. I hustled a little faster for the warmth of the old barn. It had a stone foundation with no windows, so it was still quite dark inside when I ducked in. In the shaft of light from the doorway, I could see Nell, our badly-spoiled riding mare, nodding hungry greeting from her stall. She had oats on her mind.

Over in the corner, Queen, a very good rabbit dog, rustled the broken straw bales into which she had burrowed for luxurious sleeping. First she poked out her pointed black nose, then hopped from her nest, stretching and yawning. Queen's tail whacked her ribs with enthusiasm. In seconds she was wide awake and ready to go rabbit hunting.

Massaging my stinging ears, I gave Nell her pail of oats, ran out and smashed the lip of the bucket into the creek ice to get her a chilly slug of water. Then I filled her manger with hay and trotted for the house with Queen hard on my heels.

I let her sit in the kitchen while I ate homemade buckwheat cakes, sausage and genuine maple syrup. As usual, my grandmother had to be called off her skillet, or extra cakes would have been stacked to eye level on my plate.

Finishing eating, I donned all the hunting clothes I could find in my

room, grabbed my Parker 16-gauge double and headed for the door. "Watch you don't freeze!" Gram cautioned.

Queen ran ahead as we crossed the bare, brittle earth of the garden. A few straggly tomato vines had been blackened into the ground by winter. Although it was only late November, there had been a couple weeks of very cold weather.

We aimed for a grownup bottom-land, where high goldenrod was mixed with brier patches and the tired trees of an ancient orchard. The area was usually full of rabbits.

Favorite Stand

I took up one of my favorite watching spots—a rugged, metal toolbox about four feet high that had been left behind by an oil well drilling crew.

Queen hit the goldenrod with her usual probing zigzag. Never since have I seen a dog that could match her in covering territory fast and well. She was a great router and a persistent trailer. Half blue tick and half fox terrier, she was better than any beagle I have ever run. If there was a rabbit to be routed, Queen would find it.

This fine hound didn't belong to me. She was owned by Buck Trew, proprietor of the Bentleyville Sport Shop. She boarded with us.

Queen lived for hunting. At least half a dozen times I have seen her creep into brush, closing in on the traces of body scent, then spring, cat-like, to grab a startled cottontail in his form. She always retrieved, both my rabbits and hers.

This morning was proving a rough



QUEEN LIVED FOR hunting. Many times I saw her creep into the brush, closing in on the traces of body scent, then spring catlike to grab a cottontail.

one, however. A cutting breeze had risen with the sun, so I was soon shivering hard on my perch. Queen coursed the goldenrod, cracking her busy tail into the cold-stiffened stalks. Every minute or two, she'd stop and snort loudly to clear powdery frost crystals from her muzzle and nostrils.

We spent almost an hour there, then I whistled her away and we moved across the creek into an open woods. But still no luck. Before I knew it, 10 o'clock had come and we hadn't budged a single rabbit. The air hadn't been warmed much by the low-hanging winter sun. It was still near the zero mark.

"Let's get down out of this wind," I called to Queen, and we turned back toward the bottomland. Our return route was a bit different, so we came upon the creek bank at a spot where the channel was chopped deep and the bank high. Spring floods had been slicing at the bank on my side, so the thick ledge of sod at the top had curled down to hug the bank. The sod formed a small tunnel that looked interesting to Queen. Ferret-like, she nosed under the end of this overhang and, scrambling a bit to hold her alti-

tude against the steep side of the bank, soon wiggled out of sight into the sod tunnel.

Her excited yipping broke out immediately and I was caught with my stiffened fingers jammed deep into my hunting coat pockets. A rabbit zipped out the other end of the sod section and skittered along a bare spot of the clay creek bank where the sod had broken off and tumbled into the creek. He was into the next tunnel section before I could get organized. I started to ease forward and Queen shot out, snapping wickedly at the haunches of a second rabbit. He gained ground in a hurry when he hit the open bank, and I belted him with the right barrel at about 20 yards. He cartwheeled to the thick ice surface of the creek, where Queen nabbed him and angled back up the steep slope to hand me my first bag of the morning.

As soon as I took the rabbit, Queen whirled and charged the second sod tunnel. She must have seen both those rabbits and hadn't forgotten the first one. I knew the formula already, so when this one scooted out into the next downstream break in the sod, I nailed him. Queen had suddenly located the local rabbit population, and just as suddenly I was looking like a shrewd young hunter. Immediately, I could think of miles of undercut creek banks that needed hunting. And the day had just started.

Like Overhangs

It was easy to see why rabbits liked these sod overhangs. The thick earth and root system provided a good, dry insulation from the cold and either end of each drooping section of sod was an escape route.

My dog and I had soon worked all the creek bank back to the farmhouse and it was noon. I had seen seven or eight rabbits and gotten my limit. Then, just as I was ready to turn from the creek and head for the house, Queen crowded under the very last vestige of overhang and pushed out a

ring-necked pheasant. With Queen hastening his launch, the bird cackled alarm and flushed downstream. My first quick shot had no visible effect, but I rapped him with the choke barrel and he fluttered and tumbled into a heavy weed patch just 50 yards from our barn.

Disaster to Lose Ringneck

I trotted forward on the ready. One or two ringnecks a season was about all you could expect around our farm in those days. It was a disaster to lose one. Queen barged into the weeds, though, and nabbed him. What a dog!

Back in the house, I peeled off my heavy layers of clothes and led Queen right up to the fireplace. When I patted her shoulder, clay-colored dust flew. Only then did I have time to think about this unexpectedly good morning of hunting. If we hadn't blundered into this interesting creek-side rabbit loafing spot, I'd have done poorly that cold day.

The cold weather had driven all

I KNEW THE FORMULA now, so when the second rabbit scooted into the tunnel in the creek bank sod, I nailed him coming out.



game underground—all that could get underground, that is. Even today, I like to poke around those curled-over creek banks. And, they're usually productive, even in warmer weather.

Because we now have the extended season after Christmas, many hunters in Pennsylvania can get out for late winter rabbit hunting, and often on snow. Of course, we have to find them before we can take a crack at them.

With the cue I got from this creek bank phenomenon a good many years ago, I look for winter cottontails where they weren't earlier in the season.

It's a fact that when the weather is really cold and rough, most rabbits are securely down woodchuck burrows and inaccessible to hunters. When a hunting day dawns cold and windy, you might be better off hunting something else in the morning hours. Then, if the sun does build up the air temperature a bit, rabbits will usually come out of hiding and sit in the cover near their protective burrows. You'll be able to jump them then, but should be prepared to shoot quickly. They often take a couple hops and disappear back down that hole.

Many Hiding Places

But, if you aren't willing to wait around for the weather to upgrade a little, there are plenty of places you can look for hardy cottontails above ground. Their goal on these rough days is to find protection from the wind and to retain body heat to warm their hiding spots. If weather's harsh at daylight when a rabbit finishes his night of feeding, he'll look for a cozy pocket to slip into.

You'll be amazed at the unexpected places you can find cottontails. They might be under a piece of tin lying in the field, inside pipes or culverts—anywhere. One January day, I routed a rabbit from a three-pound coffee can in a farmer's tin can pile. Maybe the picture of a hot cup of coffee on



MY FIRST SHOT had no visible effect on the ringneck, but I rapped him with the choke barrel and he fell.

the side of the can gave him a false sense of warmth.

So, you do need a good imagination and an eagle eye. Any hunter can find rabbits when the weather's warm, if there are rabbits around. But you need a dog like Queen, or general persistence, when the hard, winter weather closes in.

Take up the challenge. Check hollow trees, hollow logs, corn shocks, rock piles, hay stacks, big brush heaps, old junked car bodies, rail fences, tree-top slashings, small caves, stumps, rock outcrops, harrows and plows standing in fields, crumpled lime sacks, rusty buckets—anything that offers a rabbit-sized shelter and cuts off the wind. And don't forget to check out that creek bank!

Crime vs. Gun Licensing

Thirty-four of the 50 states regulate the acquisition of firearms by some form of licensing or prohibition, presumedly with a view to prevent the misuse of firearms in crime.

In a study done at The Pennsylvania State University in 1967, murder rates in these 34 states were compared with those in the 16 states which have no licensing requirements of any kind.

The data on murder rates were taken from the 1965 FBI Uniform Crime Reports. Statistical analysis involved the application of a "t" test to determine the significant difference, if any, between the average murder rates for the two groups of states.

The average murder rate for those states having licensing laws or prohibitions was 4.58 per 100,000 of population; for the nonlicensing states it was 4.54.

Statistical analysis revealed no significant difference in the average murder rates for the two groups, indicating that no reduction in murder rates can be claimed for the licensing and prohibition laws presently in effect at the state level.

Chickadee Well Insulated

Perhaps the first user of dead air space for insulation purposes was the friendly chickadee. It has been fluffing its feathers into a mass of down during zero weather, creating hundreds of tiny air pockets, for more than a million years.



Game Birds in Wood

By Jim Falge

GIVE A BOY a problem, ample time and some Yankee ingenuity, and he'll likely come up with a pretty good solution. Harry Waite, a new resident of the West Chester area, is an outstanding example of this maxim. As a boy in Delaware, Harry became a serious duck hunter at the age of 12. He had the desire, a gun and a place to hunt—but no decoys. So one day Harry sat down with a knife and a chunk of wood and began to carve.

Now, 16 years later, he is delighting

people with some of the most beautiful hand-carved replicas of wild birds that can be found. They aren't the flat, painted art pieces that resemble some types of sculpture. The sections are cut to make the wood grain emphasize body, wing, and even feather patterns. Then the finished pieces are surface-burned to bring up the grain in more detail. Finally, light touches of paint are added to depict true bird coloration without masking the wood's beauty.





THIS OLD HUNTING SHELTER was made of sheets of spruce bark nailed to a framework of timbers. Inside there's a wood-burning fireplace.

Lean-to Winter Dinner

By J. Almus Russell

DEEP SNOW covered the ground. The late December thermometer read zero. Our destination was a remote North Mountain lean-to. Unplowed roads had forced us to park the car several miles away from it.

Shouldering our knapsacks and adjusting our tumplines, the two of us mushed along the unbroken trail on our bear-paws to spend a long day hunting small game. We planned to have an early brunch-dinner first at the crude shelter.

The place had not been visited since last year. Was it still usable? The sloping roof had been thatched with browse, fir fans and spruce boughs. The sides were closed with hardwood sapling limbs, the back with spruce logs. The open front offered scant protection from winter gales, and the elevated fireplace just in front of the entrance furnished sketchy cooking facilities.

Previous experience had shown me the discomforts of winter trail and bush travel—I'd been wet from snow, soaked with perspiration, exhausted from exertion. In addition, the lean-to might have been wrecked by the porkies, the firewood soaked, the spring frozen. Yet, snowshoe mushers on arrival would need an immediate warm fire, sufficient drinking water and a hot meal. The first two were not impossible. Plentiful hot grub ready to serve was the question. How to answer it.

A successful experience in preparing such a meal gave me the solution. I adapted it to this winter outing. This is how I did it.

On the afternoon preceding our trip, I prepared the next day's dinner. First, I located in the pantry four one-quart glass jars with screw tops. Discarded salad dressing bottles will do equally well. I carefully examined these con-

tainers for cracks, chips or other defects. Then I washed them and laid them aside until the morrow. Also, I found a pressure cooker made to hold four one-quart jars.

Next, I visited a nearby supermarket to buy the next day's food. Incidentally, if you have some of the items on hand, you are so much to the good. A sheet of heavy plastic wrapping is desirable to make individual jackets for the bottles. However, covers saved from bread or cake make good substitutes. Make up your purchase list from the recipes themselves.

Oven Is Needed

Now have your wife plan the previous day's dinner so that the oven is entirely yours to use. You will oven-cook everything but the coffee. More convenient yet, all of your dishes may be cooked at approximately the same temperature. Of course the time must be carefully followed in each preparation.

Here is my menu—easy enough for any novice, a cinch to prepare, with success guaranteed: slumgullion, carrots, cider apple quarters, rice pudding, and coffee.

Slumgullion

Temperature—250 degrees F.
Time—2-2½ hours

1 pound beef chuck
1 cup potatoes, coarsely diced
1 can (8 oz.) tomato sauce
4 teaspoons flour
cooking fat
3 onions, sliced
1 teaspoon salt
½ teaspoon pepper
½ teaspoon paprika

Cut beef into one-inch cubes, roll in flour, brown in fat in an iron kettle. Add water to the tomato sauce to cover meat. Place a tight lid on kettle and simmer meat for about two hours. Add vegetables, seasonings, and water if needed. Cook until vegetables are tender.

Vinegared Carrots

Temperature—boiling
Time—until tender

8 medium-sized carrots
salt, pepper, parsley
3 tablespoons melted butter
½ cup hot vinegar



LAST JAR OF hot food, insulated by newspapers, is taken from backpack by author. The Thermos bottle holds hot coffee. Everything was prepared before leaving home.

Wash and scrape carrots. Cut lengthwise, then across in quarters. Cook in oven until tender. Season to taste, adding melted butter. Pour hot vinegar over them.

Cider Apple Quarters

Temperature—250 degrees F.
Time—2½-3 hours

12 medium-sized apples
½ cup sugar
½ teaspoon cinnamon
sweet cider

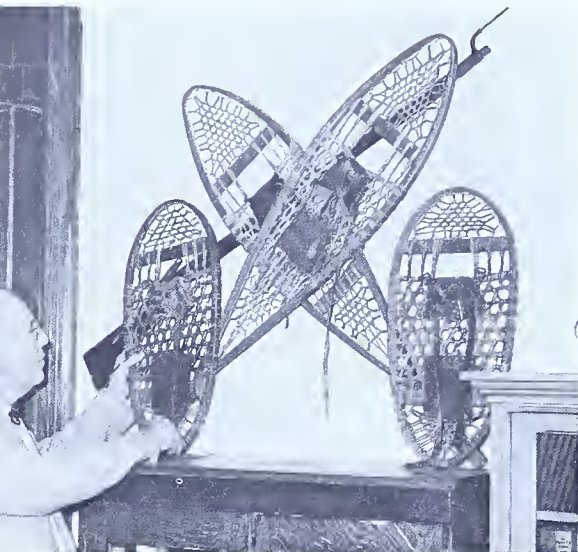
Peel, quarter and core apples. Place them in a bean pot or other covered earthen dish. Sprinkle with sugar and cinnamon. Cover with sweet cider and bake in a slow oven until fruit is tender but has not lost its shape.

Baked Rice Pudding

Temperature—250 degrees F.
Time—3 hours

1/6 cup uncooked rice
3 cups milk
½ cup sugar
¼ teaspoon salt
½ cup seedless raisins
½ teaspoon vanilla

Wash rice. Add milk, sugar and salt. Pour into greased baking dish. Bake uncovered in a very slow oven for three hours. Stir mixture well with a fork three times during the first hour, then add raisins and vanilla. Stir whenever a brown film forms on top.



RUSSELL prefers bearpaw snowshoes (without tails) for travel in wooded, hilly country. The longer style is used in open areas where the snow is light and dry.

Thermos Coffee

Prepare coffee (powdered or percolated) according to strength desired. Add powdered milk and sugar if you wish. Make enough to fill a quart Thermos bottle.

Early on the morning of our trip, I filled each of the jars with one of the menu items, placing the screw tops on loosely so that the steam might easily escape during the heating process. (If flip-top jars with glass covers are substituted for the Mason type screw tops, don't fasten the wire bail during the cooking, and don't forget the rubber ring required beneath each cover.)

Now place the four jars in the pressure cooker, fasten the lid, place the control in position, and cook at ten pounds pressure for two minutes. Remove the cooker from the burner. Let it cool slowly until no more steam escapes from the top. (*Under no conditions, pour cold water over the lid to hasten the cooling.*) The contents of each jar should be boiling when removed from fire.

Screw the caps on very tightly or fasten the wire bails. Wrap each jar quickly in a plastic cover, then in

layers of newspapers, tying them on tightly. Pack jars in each knapsack with any extra clothes wedged around them. This prevents escape of heat and avoids chafed backs. The food should keep very hot for at least six hours.

Kipling's Red Gods

As soon as we reached the lean-to my companion kindled a fire in the cooking fireplace. Next, he filled a discarded gallon peach can with ice from the frozen spring, placing it near the fire to thaw. This was our drinking water.

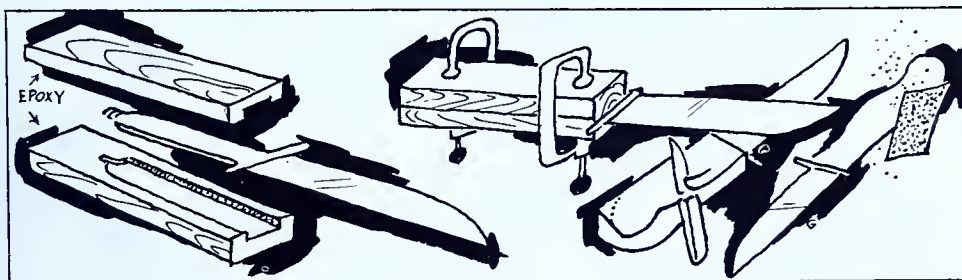
Then, with an air of mystery, he piled evergreen branches on the leaping flames, creating a white smoke plume. To my surprise, he broke open a package of Prince Albert cut plug, sprinkling a little of it on the fire. Then, in deference to the Indian gods, he bowed to the north, the south, the east, and the west as he paraphrased Kipling—

*Now the Four-way lodge is
opened, now the Hunting
Winds are loose—
Now the Smokes of Winter go up
to clear the brain;
Now the Young Men's hearts
are troubled for the whisper
of the Trues,
Now the Red Gods make their
medicine again. . . .*

We located a crude table with two backless benches as we preheated our aluminum cups and plates. Then we eagerly opened our jars of hot food. Sight, smell, and taste sharpened our appetites. The crisp winter air made us ravenous. The smell of the cooked meat attracted the chipmunks and bluejays to our plates.

My labor had been well spent in preparing this meal ahead of time. The slumgullion, carrots, applesauce, and rice pudding, washed down with plenty of hot coffee, filled our stomachs. Our lean-to winter dinner had paid off big.

New Knife Handle?



Drawing by John Gallucci

By Robert F. Cubbins

IF YOUR favorite belt knife is no longer serviceable because of a loose or broken grip, don't put it on your workbench as a prying tool for paint cans. In a couple of evenings you can make a new handle that will please the most critical eye and stand up under hardest use in the outdoors.

You'll need the following items:

Epoxy cement

Medium and fine sandpaper

Small routing tool or curved chisel
(The X-acto router in size E does a fine job.)

Two small C clamps

Two blocks of close-grained hardwood. (Use cherry, maple or walnut for a fine effect. Each block should be $\frac{3}{4}$ " thick, $1\frac{1}{2}$ " wide and about $1\frac{1}{2}$ " longer than the tang.)

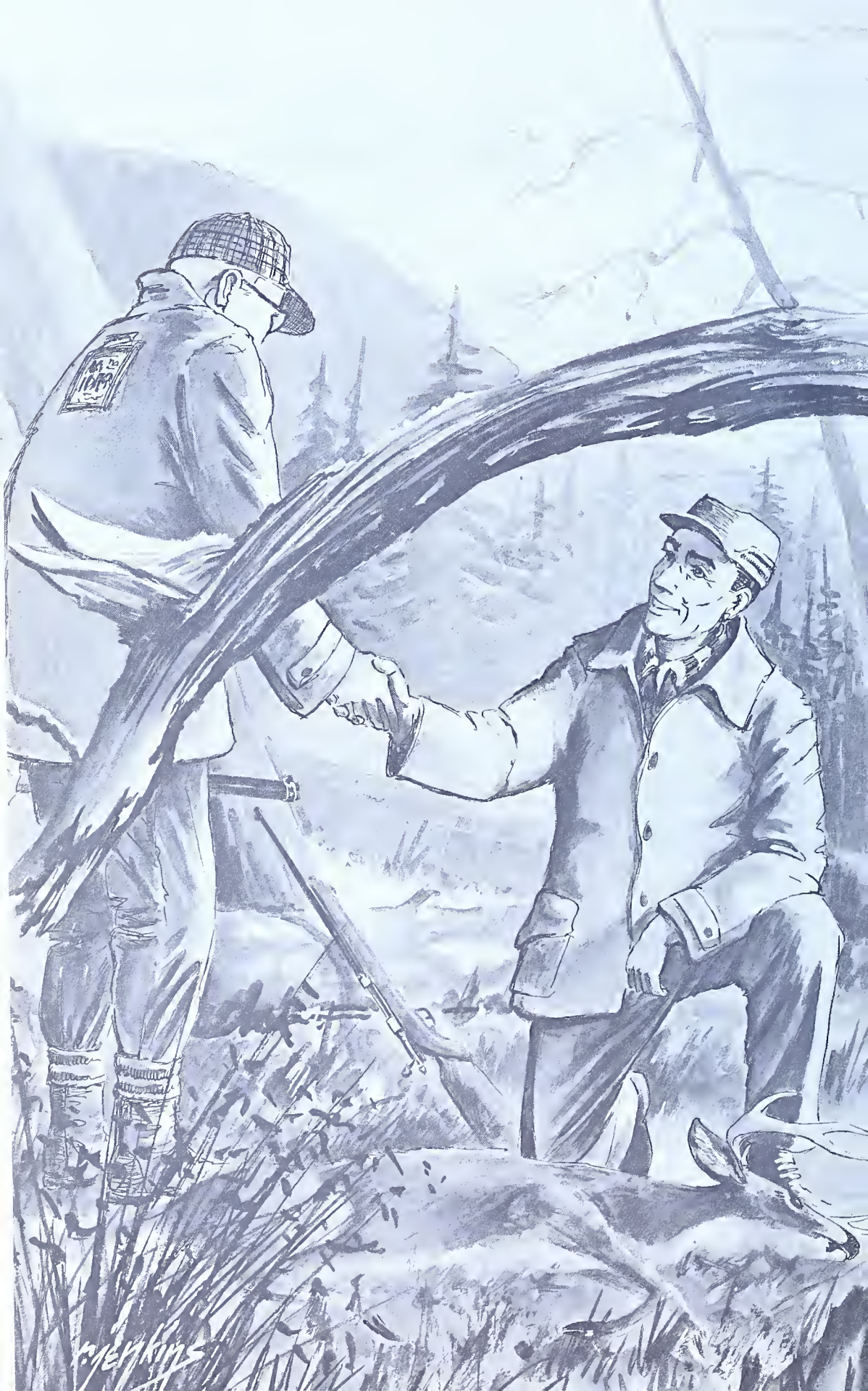
Remove the old handle but retain finger guard. Clean tang with sandpaper, wash with solvent or detergent.

Center tang on one block with guard tight against wood. Trace tang outline on block. Turn blade over, repeat procedure on second block.

Inlet outlined portions to just over one-half the thickness of tang, testing as you proceed. Don't sand the beds. Apply epoxy liberally to each bed, with a thin coating on remainder of wood. Assemble grips on tang and clamp (alternatives: put in vise or on flat surface and pile with books).

Allow 24 hours for drying. Shape handle with pocketknife and sand it smooth. Stain and wax handle, or use Indian charwax finish — run through candle flame until it darkens somewhat, occasionally applying hot wax until it reaches hornlike appearance. Polish with soft cloth.

You now have a handle that will give many years of service, as well as personal satisfaction.



A Buck to Remember

By John D. Kendig

MARK WINTERS and I belong to the Lancaster County Dutchman's Hunting Club, and we have a fine camp in Potter County. It's located about three miles west of Lyman Run Lake on the Cherry Springs Road. You can't see it from the road and it's quite a little jaunt to get there. You go in through a swinging gate, cross a bridge, go over a field, drive through the creek and right up into a patch of the loveliest old hemlocks you ever saw. There in a little clearing rests our camp.

We have a good gang of fellows coming in every year to try their luck for turkeys, bear and deer, and one of the things I like about it is, they get more out of it than just the shooting. They enjoy the privilege of being together there in the woods as they get away from the hurried bustle of everyday life and enjoy the fresh air and the fragrance of the wood fire in the cabin, drink real spring water, see the glory of the timbered lands and the cloud-flecked skies and absorb the quiet peace and wonder of the wilderness. It's almost, you might say, like being born again.

Which brings up the story of Mark and his buck of 1966. You know, you can hunt with a fellow a good many years and find him to be a good woodsman and a good shot and yet not really know him until something special happens.

That's the way it was with Mark. He loves the woods, he knows the country well and he's always finding out new things about it. Most years he brings in just about the best buck in the camp. But this year he brought back something more.

It all happened on the first day—a dreary day with a steady rain pouring

down. Mark followed the Y Trail to the old dead beech and took a path down into a high ravine where some wild apple trees were scattered about. He had seen deer there while turkey hunting earlier in the fall. Now he heard only occasional shots as he went along.

"Wildcat" Tree

He kept his eyes open and as usual saw interesting things. There was a tree that, years ago, had been broken down in an ice storm and had later regrown into a sort of freak that at the base greatly resembled a wildcat. Farther along he was attracted by a huge, moss-covered log lying there as if it had always been a part of the forest floor. He got to wondering just how long it had lain there and then realized that very likely it had been part of the original forest cut by the loggers in the late 1800s, when this country had been in its heyday—when log slides were built along the mountainsides and strange bark-covered cabins stood here and there; when several thousand people had lived down at Corbett and most certainly there had been hotels, churches and schools—all burned out now but the converted schoolhouse where the farmer lived and the original white pine log cabin that was our hunting camp.

Suddenly Mark was conscious of something approaching. He stood still. First came a doe that crossed in front of him and disappeared up the slope. Then another deer came into sight, larger and more buck-like, but in the rain and brushy cover it was hard to tell just what it was. Slowly it came closer and soon was within about 60 yards. But still he could not clearly see

its head. In another second it staggered and pitched forward and, as it fell, he saw the antlers.

Mark could never quite describe to anyone just how he felt when this happened, and it was difficult to know what to do. He could easily have claimed it as his own kill, but he hadn't even had a chance to shoot. On the other hand he didn't want to go off and leave it there unclaimed.

So he waited near the buck. Perhaps another deer would come along, or— He was there about half an hour when a rather elderly man came up the trail.

"Well, I see you got your deer," the old fellow said.

"But I didn't," Mark replied. "This buck simply came here and fell over. I never even shot, and I couldn't hear that anybody else did."

"Then it could be my deer," the old fellow said. "I shot at one awhile ago but it never stopped."

"Did you get a good look at it?" Mark asked. "How many points did it have?"

"Yes, I did. Thought I had a good shot at it, on the right shoulder. Believe it had about eight points."

"Let's look," Mark said, and they went over to the deer and pulled the head out from where it had been partly hidden under the crumpled body. It had eight points and it had most certainly been shot in the right shoulder.

"Congratulations!" Mark said. "It's your deer."

The happy look on the old fellow's face would have been thanks enough, even if he never said another word.

Mark offered to help drag the deer out but the old fellow politely refused.

"You see," he said, "I have all day and it's downhill. And this is my last hunt. I want to drag out my last buck."

And that's how I learned that Mark was even a better sportsman than I had imagined.

That was also the year Mark didn't get his buck—the nicest one our camp would have had in 1966. But he did get something else. He had given happiness to an old deer hunter and inner peace and satisfaction to himself and pride to all of us who claim him as the best sportsman in the whole camp.

His was truly a buck to remember!

Bear Information Needed

The Pennsylvania Cooperative Wildlife Research Unit, 113 Ferguson Building, University Park, Pa., and Norm Erickson, District Game Protector for Cameron County at Emporium, would appreciate reports of any hibernating bears, particularly those found in the Wycoff Run Watershed south of Sinnamahoning, Cameron County. The Wycoff Run drainage is a study area in which information is being gathered to help learn the bear's range requirements and to determine the productivity of the black bear population.

In addition, hunters who can contribute skulls or canine teeth from bears harvested this past season in Pennsylvania can help by permitting workers to determine the age of the bruins and a determination as to whether we are properly harvesting our bear population. Information about the sex and weight of the bear and county where it was taken should accompany contributed canine teeth or skulls.

Ambitious Muskrats

The muskrat often builds bank burrows with underwater entrances. The home burrow may be a complicated structure, with several passages and a nest chamber.



IN BADLY OVERBROWSED TIMBER, even the hemlock shows a conspicuous browse line. Here, there is no place to hide.

The Forest That Refused to Die

By Laurence E. Stotz

IN THE second-growth timber that forms the "big woods" of northwestern Pennsylvania, in many places two forests are telescoped into one.

The fast-growing northern hardwood forest forms the overstory; a shade-tolerant hemlock forest occupies the understory. It is this understory forest that should be of great interest to sportsmen. It is made up of a single species that refused to die.

Most of its forebears had been cut down and the logs left to rot in the woods after the bark had been stripped off to be used for tanning leather. Any remaining merchantable hemlock had later been felled for sawlogs.

Today, the key role of this under-

story forest of hemlock is to provide escape cover and shelter from the weather for game animals and other forms of wildlife. A hardwood forest stripped of its leaves would be a bleak place in the winter without the welcome greenery provided by young hemlock beneath.

The bare crowns of the hardwood forest allow most of the snow to reach the ground, where it may pile up to great depths unless there is a hemlock understory to capture and hold a portion of it. This interception of a part of the snowfall serves two purposes: it greatly reduces the depth of snow under the hemlocks, and the white flakes that cling to each tiny needle build up enough weight to bend the

lower live branches until they reach close to the ground.

Often the lower branches on the young hemlocks have been killed by concentrations of deer stripping off the needles. Under such conditions, the bending action of wet snow clinging to the remaining live limbs is very important in creating winter escape cover and shelter.

The virgin forests that gave way to the second-growth northern hardwood forests of today were composed chiefly of giant hemlock and beech with a scattering of maples, birches and other hardwoods. In these forests, the mountain lion and the timber wolf were efficient predators that had kept the deer population within bounds.

In the understory were many age classes of hemlock and hardwood timber species. Mingled with these were shrubs, the most abundant of which was hobble bush, commonly known as witch hobble—a species of viburnum. In these virgin forests there was a characteristic layering effect in the vegetation that reached from tiny

WITH THE LIVE limbs of the hemlock bent to the ground by snow, wildlife finds perfect escape cover from its enemies.



seedlings, shrubs, small and large pole-size timber to the giant trees of the high forest.

The browse line so evident today in much of the second-growth forests is the end result of the complete elimination of the layering effect of vegetation in the lower understory. Tree seedlings and shade-enduring shrubs that had formed much of the food and escape cover for wildlife in the virgin forest are absent in the second-growth forest wherever a conspicuous browse line appears.

Browse Lines

Browse lines are not confined to hardwood species. They are also found in the understory forest of young hemlock. Here they can be recognized by the great number of dead branches extending from near the ground line to the height of a deer, and by the many dead or missing hemlock in the one-foot to five-foot height class.

Perhaps it is just as well that the shade-enduring hemlock grows so slowly as an understory tree. Once it is released, it may grow rapidly in both height and diameter, losing much of its value as escape cover for wildlife other than grouse and wild turkey. As a suppressed understory tree, a hemlock with a trunk diameter no larger than a man's wrist may have been a seedling at the time of the French and Indian War.

It's unfortunate that this second forest that grows beneath the dominant hardwood forest is not spread more evenly throughout the range of the northern hardwood type.

If it were, there would be no problem in providing enough escape cover and shelter for wildlife. In some areas, the hemlock understory is too thick; in other areas it is too thin, or completely absent.

In most sections of the big woods of northwestern Pennsylvania, witch hobble—the hemlock's companion of early days—is missing entirely. Unable to grow above the height of hungry

deer that reared up on their hind legs to feed on this succulent shrub, it became so badly overbrowsed that it died. A few scattered relicts of witch hobble may be found in partly protected places if one searches carefully. They are often not more than a foot high, and badly overbrowsed. After the snow has settled in early spring they may be found peeping cautiously out of the blanket of snow that has covered them all winter.

Hemlock Understory

It is this understory forest of hemlock that plagues the deer hunter when wet snow clings to every branch and twig. Visibility is reduced to the distance of an effective shotgun blast, and he feels out of his element with rifle and scope. Any attempt to track a deer in this labyrinth of hemlock understory, where every bough is weighted down with snow, usually re-

sults in frustration. Tracking is done under the deer's own terms, for it holds all the advantage.

Many a disgruntled hunter who has lost his quarry in a hemlock understory has wished that this second forest had never existed. He may condemn it as serving no useful purpose. He fails to realize that every living creature needs, in addition to food, some form of escape cover and shelter from its enemies and the elements, if it is to survive.

The hunter's real concern should be over the lack of adequate wildlife food. He should ask himself, "Where are the hobble bush, and other palatable shrubs, and hardwood seedlings?"

There is no better year-round shelter than this second forest—this little understory of hemlock telescoped into the high forest of northern hardwoods. But it usually lacks companion vegetation within reach of deer.

IN MANY AREAS OF THE northern hardwood type forest, hemlocks are completely absent. The browse line here indicates a severely overbrowsed range, lacking both food and shelter.





DORIS TOLD MISS PENNSYLVANIA pageant officials she was available for the demanding schedule of appearances required of a state beauty queen, but that she'd need to have time off for hunting. She got it, too.



Miss Penn

MISS PENNSYLVANIA is an avid hunter and before her crowning in the so attracted to the sport of new gun (though the one quite adequate) for the pa she was really excited abo





... Huntress

Ann Lausch of Lancaster County, Pa. In fact, the final question concerned her reasons for being a huntress. She has her own dog and bought a retriever. In these photos were taken was Doris Lausch. But like most hunters, she has her own property.

PGC Photos by Ralph Cady



MISS PENNSYLVANIA, who lives in the heart of some of the nation's finest pheasant country, proudly displays ringneck for mother, above, and enjoys working with retriever, below. Doris, who lives on a farm, finds plenty of birds and bunnies on own property.





FIELD NOTES



Popularity Growth

FOREST COUNTY—We had more turkey hunters this year than any year since I've been in this district. Hunters are just finding out what a wonderful trophy the Pennsylvania wild turkey really is.—District Game Protector D. W. Gross, Marienville.



Puff . . . Puff . . .

VENANGO COUNTY—While signing up Safety Zone cooperators recently, a farmer told me that last antlerless deer season while he was doing some work around the pasture he noticed a large doe run close by, heading toward the woods. Not far behind came a hunter, running as hard as he could. When the hunter saw the farmer, he shouted and asked the farmer if he had any 30-06 shells around. The farmer yelled that he had none of that caliber. The hunter said he shot a whole box of shells at the deer, and had been chasing it since early that morning. During the whole conversation, the hunter never stopped running. He was soon out of sight in the woods, still on the trail. I wonder who won.—District Game Protector L. E. Yocum, Oil City.

Not Zeroed In

JEFFERSON AND CLARION COUNTIES — Checked an archery hunter at the Carrier farm on State Game Lands No. 54 and he advised me that he was going to climb an apple tree and wait for a deer. I said this probably would be a good spot because of the apples on the ground. He then told me he had seen a friend miss a deer there the evening before. I asked how far the deer was from the friend at the time. The hunter told me that the deer was directly under the tree and his friend shot the arrow straight down. Probably would have done better if he had dropped an apple.—Land Manager E. R. Richards, Brookville.

Welcome Visitors

PERRY COUNTY — The opening day of ringneck and rabbit season was beautiful, with a good supply of game, excellent cover and a good turnout of hunters — especially on State Game Lands No. 249 in Adams County. It was almost unbelievable, the number of hunters utilizing all parts of this State Game Lands. Many were non-residents, mostly from Maryland, with one or more from Kansas, Virginia, Vermont and New Jersey. Lots of wonderful comments from these out-of-staters concerning the open hunting, excellent cover and abounding small game. These nonresidents really enjoy and appreciate the excellent hunting opportunities on State Game Lands as well as the Cooperative Farm Game Projects, and all that were contacted have only praise for the results the Pennsylvania Game Commission are giving them.—Land Manager H. E. Russell, New Bloomfield.



Rude Awakening

HUNTINGDON COUNTY—While cutting border on Farm Game Project 207 in Huntingdon County, the Food and Cover Corps had just felled a dead, hollow apple tree. A large and confused great horned owl crawled out of the tree, blinked his eyes and took off for new sleeping quarters.—Land Manager W. H. Shaffer, Huntingdon.

Difference in Attitudes

BLAIR COUNTY—While checking hunters in October, I encountered a powerfully built young man, approximately 20 years old, sitting in his car. He was parked at least a half mile from a timbered area and complained bitterly that there were no squirrels this year. During the same morning I met a paraplegic on Game Lands who managed to get about 100 yards from his car although he found it necessary to use both leg braces and crutches, a high school student with one leg in a cast and using crutches, an elderly hunter with an artificial leg, and two archers with permanently disfigured left hands. Although these hunters were not in possession of any game, there wasn't a gripe coming from a single one. Maybe more of us should take a little time and count our blessings.—District Game Protector J. L. DeLong, Roaring Spring.

A Million Thanks

SCHUYLKILL COUNTY—While on patrol on the first day of archery season, I struck up a conversation with a gentleman in Swope's Valley. He had some questions on the work of the Game Commission. In the course of the conversation, I mentioned that much of our work is overlooked by the sportsmen and public, and that complaints are more frequent than thank-you's. He agreed that people are more prone to complain than praise, but he then made a remark that I will remember for a long time. He said, "I think the sportsmen are saying 'Thank you' every time they buy a hunting license." So my answer to the sportsmen is, "You're welcome."—District Game Protector L. E. Bittner, Tremont.

Albino Bunnies

WASHINGTON COUNTY—During the opening day of the general small game season I checked two part-albino cottontail rabbits that were bagged approximately one-quarter mile apart. The first was taken by Jeff Zabierowsky of Pittsburgh and the second by Harvey Engle of McDonald. Both rabbits had pink eyes and pinkish nails on the paws, along with very light beige fur.—District Game Protector D. C. Madl, McDonald.

Hard to Believe

BEDFORD COUNTY—After apprehending a hunter for transporting a loaded shotgun in his car, I tried to impress him with the seriousness of his violation by relating the fact that I had investigated three fatal hunting accidents that were caused by loaded guns in cars. He had a question. He wanted to know what "fatal" meant. In all probability, if he keeps on hunting like this, he'll be one before he finds out.—District Game Protector J. J. Troutman, Everett.



Display on Whose Back?

LANCASTER COUNTY—Recently I attended a Bar-B-Q at a local sportsmen's club. There I saw a gentleman that had come to my headquarters last year with quite a problem. He was having some difficulties locating a baby-sitter for his six-month-old baby. With the many unusual requests we do get, I first thought he wanted me to do the honors. But he just wanted to know if it was legal for him to carry his baby on his back Indian style and pin his hunting license on the baby when he went out hunting.—District Game Protector H. G. Stanke-wich, Lancaster.

Name Dropper

CRAWFORD COUNTY — While talking to a man about a violation he told me, "I know Game Protector Miller and he'll be glad to vouch for my character. He knows me, and that I wouldn't do anything wrong."—District Game Protector J. R. Miller, Meadville.

Watch Your Step

BEDFORD COUNTY — While checking archery hunters on State Game Lands No. 73 on October 13, I ran across two black snakes and one copperhead.—District Game Protector S. E. Lockerman, Loysburg.

Change of Heart

ALLEGHENY COUNTY — Deputy Game Protector Charles Rupert of Oakmont received a call from the police that there was a dead deer on Route 28, just outside of Pittsburgh. A thorough search failed to reveal the deer, although the directions had been quite exact. The next day the police again called, and said the same deer was where it had been seen the day before. Evidently the person who had picked up the deer found these road kills aren't so attractive once they have them home, and having no better place to put it, took it back where he found it. Charlie said he's had many deer stolen, but this is the first time he's had one returned.—District Game Protector R. B. Belding, Bradfordwoods.



Bang! Bang! Bang!

BEDFORD COUNTY — The opening day of waterfowl season at Shawnee Lake converted at least one local hunter into a duck hunter. It seems that Bob Foor, of R. D. 3, Bedford, got quite a charge out of the fact that his buddy, Jack Wentz of Ryot, had fired 21 shots during the first couple of hours of the season when he suddenly realized that he had fired 17 times. The "gittin'" wasn't really good, but the hunting couldn't be beat.—District Game Protector C. J. Williams, Bedford.

Always Leave 'Em Laughing!

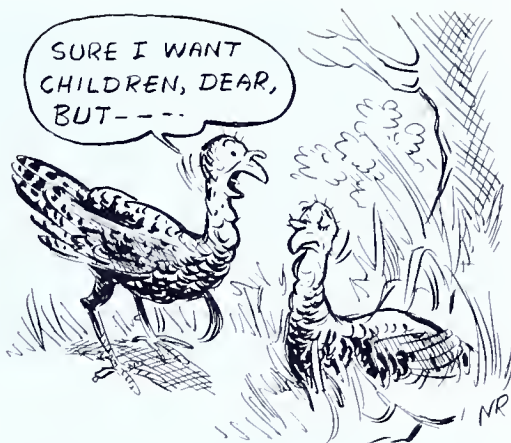
MERCER COUNTY—While Deputy Tom Kirby and I were working at the Stoneboro Fair Display, a small boy came by and I handed him a past issue of the *GAME NEWS*. As he leafed through it, he saw the Field Notes section. He looked up at me with his big brown eyes and said, "I've seen this book before, and I like this joke section the best of all." As I turned to the chuckling deputy, all I could think of to say was, "There's my 'joke' for next month."—District Game Protector J. A. Badger, Mercer.

Shoot 'Em Again

ELK COUNTY—Deputy Ronald Askey reported that a squirrel hunter in the Monessen Camp on the Caledonia Pike had killed several squirrels and put them in a plastic bag on the camp porch. While he was inside eating lunch there was a loud thump on the porch. Rushing outside to see what had happened, he found that the squirrels, bag and all, had disappeared.—District Game Protector H. D. Harshbarger, Kersey.

Dedicated Deputy

BUTLER COUNTY—Deputy K. D. Thompson has signed up in excess of 18,000 acres of hunting land under the Game Commission's Safety Zone Program this year. Quite an enviable record, considering that under his retirement plan there is a clause saying that after retirement no ex-employee can receive compensation from any work that he held previous to retirement. And, considering that Ken had his deputy commission before his retirement, this is the category he falls into. He can receive no compensation whatsoever from the Game Commission for his work. The Game Commission is extremely fortunate to have this type of man working for them.—District Game Protector W. N. Weston, Boyers.



Late Starter

LYCOMING COUNTY—A former deputy, Norman Marquardt, told me that on October 21, while grouse and squirrel hunting, he noticed a wild turkey run out of some grass and hay near the edge of the woods. Walking over he found a nest with twelve eggs in it. She'll have to hurry to beat the snow.—District Game Protector P. A. Ranch, Williamsport.

Oldest Archer

ELK COUNTY—Through checking archery hunters the last few years it has been found that the age class participating in this sport is the younger to middle aged group. It was brought to my attention lately that here in Elk County we have a man, Oscar Nelson from Wilcox, who at 79 may be our oldest archery hunter.—Land Manager R. J. Rea, Wilcox.

Really a Gunner

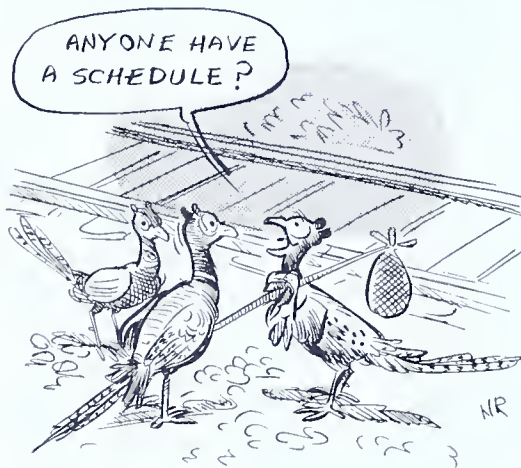
SCHUYLKILL COUNTY—On the first day of the archery season, Deputies Brander and Matz were checking some archers and asked them how they were doing. One of them, in all seriousness, replied that he didn't think it was such a successful day as they hadn't "heard" a shot all day.—District Game Protector L. E. Bittner, Tremont.

Went North

LANCASTER COUNTY—On June 6, I released some four-week-old ducklings on the Conestoga Creek in Lancaster County. One of the ducks sporting tag No. 154674 was shot on October 13 by Raynald Badour of Ontario, Canada. I appreciate the report from Mr. Badour. It proves our stocked ducks do fly.—District Game Protector W. E. Woodring, Ephrata.

Chop, Chop, Chop

GREENE COUNTY—While talking to some local residents about a beaver I had in my trunk, which I trapped on a damage complaint, an elderly lady remarked about the tail. Swinging her hand in a chopping motion she said, "Oh, and that's what they chop the trees down with, isn't it?"—District Game Protector T. Vesloski, Carmichaels.



Destination: Anywhere

FRANKLIN COUNTY—On October 27 as I was on patrol, I saw four ring-necked pheasants standing along the Western Maryland railroad tracks. This was near Pinola, an area that gets quite a lot of hunting pressure. They seemed to know hunting season would open the next morning and were waiting on the train to get out of there. — District Game Protector J. D. Mort, Chambersburg.

No Words Needed

CLEARFIELD COUNTY—While on patrol on the first day of the general small game season, I stopped my car alongside of a field where some hunters were walking through. Noting one man standing nearby, I asked, "How are you doing?" At that moment, a movement caught my eye and I saw the man raise his shotgun, fire and miss the bounding rabbit as it passed within 10 yards of him. (Note:) He didn't answer my question . . . just grinned. — District Game Protector J. R. Furlong, Ramey.

Let Me Outa Here!

CUMBERLAND COUNTY—Deputy McClain of Camp Hill recently was called on by borough police to remove a large 6-point deer from the rear seat of a new Lincoln automobile. The driver and a friend were traveling on Route 15 north of Gettysburg when the car in front of them struck the deer and kept on going. The Good Samaritans loaded the groggy deer in the rear seat of their car and looked for a veterinarian en route to Harrisburg. Finding none, they related their plight to a police officer in Camp Hill. From Deputy McClain's report, the rear seat of the car was literally torn to shreds by the thrashing animal, which had to be disposed of.—District Game Protector E. F. Utech, Carlisle.

Some Hit, Some Miss

PERRY COUNTY—I was gratified at the number of hunters that took advantage of the early small game season. The first day was excellent for squirrels. Many hunters got their limit. Of the large number I spoke to or checked, all had squirrels but one. He was the carefree type, though, and just laughed as he said, "I missed seven straight with my 22 rifle."—District Game Protector B. D. Jones, Loysville.



CONSERVATION NEWS



National Amateur Pheasant Shooting Dog Championship

By Truman F. Cowles

THINGS occurred in pairs as the Amateur Field Trial Clubs of America sponsored the second successive running of their annual Pheasant Shooting Dog Championship over the grounds of the Pennsylvania Game Commission at Allenwood, on October 8, 9 and 10. Not only was it the second event staged on these grounds, but Trachaven Nellie, a five-year-old pointer female owned and handled by Gene Straussbaugh of York, won the coveted Championship crown for the second successive time.

Nellie vanquished a record-breaking field of 42 dogs for the event which has a ten-year history. In the past it has been run on various sites—at Baldwinsville, N. Y., Killdeer Plains, Ohio, and at Beale Air Force Base in California. Field trialers and patrons of competitions for shooting dogs skilled in the art of handling the wily ring-necked variety so famous in these northern climes are most enthusiastic about the development and properties of the Allenwood grounds as a testing site for the highly polished field trial competitions. This area of roughly 3000 acres was placed under Game Commission control three years ago and has been developed as a multiple use tract. Extensive planning in feed patch location, predator control and facility development has been in the development stage and is beginning to bear fruit on the tract. Visitors were enthusiastic in their praise of the improvements wrought since last sea-



Photo by Truman F. Cowles

CHAMPION Trachaven Nellie with handler-owner Gene Straussbaugh, judges Gene Galloway and Louis Farmer, reporter Truman Cowles and Mrs. Galloway.

son and optimistic that these programs will continue.

Two real contenders emerged to challenge the superior effort rendered by Trachaven Nellie. These were Harrington's Joe, a setter owned and handled by Charles Gianfrate of Binghamton, N. Y., and Elhew Quick Draw, a young pointer whose owner-handler James Wherry came all the way from Seattle, Wash., to compete in this prestige event.



JOHN D. GALLANT, left, who shot first mountain lion bagged in Pennsylvania in many decades, with friend Don Helmbeck.

STORIES of mountain lions being seen in Pennsylvania are not unusual. Every so often one is reported. But definite proof of their existence is usually lacking, and according to the records of Paul Failor, Wildlife Conservation Specialist of the Game Commission, no cougar has been killed in Pennsylvania since shortly after the turn of the century.

This situation has changed. A cougar was recently killed in Pennsylvania.

On October 28, 1967, while squirrel hunting in Venango Township, Crawford County, John D. Gallant of R. D. 3, Edinboro, shot a mountain lion. The animal was five feet three inches long from nose to tip of tail and weighed 48 pounds.

The cougar was later examined by Dr. Kenneth Doult, Curator of Mammals, Carnegie Museum, who said it was six to eight months old.

Outdoorsman of the Year

Lee Wulff, noted outdoors authority, writer, lecturer and motion picture producer, was named the 1967 Outdoorsman of the Year at the eighth annual Eastern Outdoor Editors' Tournament conducted by Winchester-Western. The recipient of this award is chosen by a national poll of more than 5000 outdoor writers and conservationists. Mr. Wulff was cited for his lifelong devotion to fish and wildlife conservation and his ceaseless efforts to communicate the pleasures and responsibilities of the outdoorsman to the nation's sportsmen.

Financial Report for the Fiscal Year

July 1, 1966, to June 30, 1967

By John M. Smith, Comptroller

THE RESULTS of operations of the Pennsylvania Game Commission for the fiscal year July 1, 1966, to June 30, 1967, are presented in the following schedules.

The Pennsylvania Game Commission has completed its most successful fiscal year. The keen personal interest of the Game Commissioners and employees has been the stimulant for promoting an outstanding financial year.

The Project 70 Fund, a \$5,000,000 Land Acquisition Project, expiring at December 31, 1970, shows approximately 11,000 acres of land acquired at a cost of \$2,316,998.01 as of June 30, 1967.

The Pennsylvania Game Commission is a complete self-sustaining agency which receives no support from the tax revenues of the state. The operations of the Game Commission are financed entirely from the sale of licenses, collection of Game Law fines and penalties, publications, participation in Federal funds and miscellaneous sources.

A Record Year for Revenue
\$8,312,090

Increase in Revenue Over Prior Year,
a Whopping \$643,305 or 8.3%

Revenue Increases
in Sales of Licenses
Over Prior Fiscal Year

Resident	3.1%
Nonresident	16.2%
Archery	19.8%
Antlerless Deer	44.1%

There are "earmarked funds" in the Game Fund as provided by the Game Law.

No less than \$1.25 from each resident hunter's license fee shall be spent for improving and maintaining natural wildlife habitat on land which is available for public hunting.

Pennsylvania's Hunting Is
Number One
in the Nation

The sum of \$1 from the sale of each resident and nonresident antlerless deer license shall be used for development and maintenance of deer food and cover on State Game Lands.

\$785 Daily Average Interest
Received During the Year on
Deposits and Securities

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditures from the Game Fund. Under the provisions of Article IV, Section 402 of the Commonwealth's Fiscal Code, the Auditor General is required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. Other controls imposed on State Departments are deemed adequate to control all financial transactions and budget matters.

The formal audit of the accounts of the Game Commission for the fiscal year ended June 30, 1967, has not been completed but the accounts are in good order and no problems are anticipated.

Over Seven Million Acres
of Public Hunting Grounds
in Pennsylvania
. . . Try It . . .



SCHEDULE I

PENNSYLVANIA GAME COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JULY 1, 1966, TO JUNE 30, 1967

REVENUE	
Cash in State Treasury to Credit of "Game Fund" on July 1, 1966	\$5,302,321.90
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1966	532.00
Net Amount Available for Expenditure as of July 1, 1966	\$5,301,789.90
Receipts July 1, 1966, to June 30, 1967	
Resident Hunters' Licenses	\$4,393,159.02
Nonresident Hunters' Licenses	1,571,988.75
Antlerless Deer Licenses	376,916.40
Archery Licenses	185,886.60
Nonresident Trapping Licenses	350.80
Special 3-Day Nonresident Regulated Shooting Grounds Licenses	7,325.40
Special Game Permits	33,336.00
Interest on Deposits	38,739.90
Sale of Skins and Guns	10,783.21
Sale of Unserviceable Property (Through Property and Supplies)	746.43
Miscellaneous	114,635.31
Rental of State Property	48,056.42
Sale of Wood Products	287,255.72
Contributions from Federal Government	526,602.46
Sale of Publications	187,777.98
Interest on Securities	247,864.31
Ground Rentals and Royalties (Gas Wells)	48,074.69
Coal Royalties	10,862.84
Game Law Fines	221,727.40
Total Receipts From All Sources	8,312,089.64
Total Funds Available During Fiscal Year 1966-1967	\$13,613,879.54

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive Accounting Administration and Education	Propagation	Research	Law Enforcement	Training School	Land Management	Totals
Salaries	\$218,221.22	\$229,019.77	\$200,591.16	\$879,251.37	\$16,481.50	\$519,334.53	\$2,160,623.30
Wages	11,431.95	12,418.89	225,578.46	151,664.10	8,657.86	1,041,812.71	1,452,405.14
Professional and Special Services	35,589.38	28,397.73	141.20	3,785.21	34.50	35,126.54	106,766.56
Printing	4,378.11	191,623.07	164.07	31,368.53		12,397.68	241,303.94
Advertising	15,218.70			1,509.84		4,046.55	20,775.09
Postage and Freight	28,207.68	23,909.32	654.35	6,147.08	6.00	5,565.91	64,856.56
Communications	4,286.52	3,553.26	3,501.94	30,777.04	282.74	15,098.07	59,875.22
Travel	17,606.74	48,863.13	23,788.34	299,715.90	2,317.84	113,885.43	527,379.50
Utilities and Fuel		872.18	10,695.61	10,269.22	1,463.06	8,322.92	31,535.99
Memberships, Dues and Subscriptions	482.42	82.10	15.20	50.35	26.92	36.85	702.84
Insurance, Surety and Fidelity Bonds	2,815.60	3,465.56	5,858.02	15,023.46	297.82	20,828.03	49,315.98
Motorized Equipment, Supplies and Repairs	2,310.71	2,350.79	17,862.26	10,203.50	777.50	84,312.92	117,817.68
Contracted Maintenance and Repairs	2,396.72	5,114.22	5,241.55	51,755.70	2,768.67	33,533.86	101,067.79
Rent of Real Estate	1,122.85	600.20	226.00	1,397.00		3,392.50	6,738.55
Rent of Equipment	17,201.11	157.74	6,367.49	1,655.22		7,626.77	33,355.33
Materials and Supplies	17,114.59	20,316.67	218,675.87	34,369.38	5,643.85	218,337.24	518,112.36
Wearing Apparel		414.24	60.23	13,311.13		1,000.41	14,848.16
Motor Vehicles and Farm Equipment	7,036.77	10,565.52	34,447.44	17,342.66	1,483.60	224,132.66	296,020.94
Furniture and Fixtures	599.22	165.41	108.49	670.73	185.70	985.80	3,588.40
Purchase of Game			128,533.45			450.00	128,983.45
Land Acquisitions						383,614.34	383,614.34
Buildings and Structures		3,014.15	1,808.04	18,062.67		21,760.79	44,645.65
Nonstructural Improvements						50,098.49	50,098.49
Grants and Payments to Individuals							24,940.64
Grants to Institutions		7,000.00		24,940.64			22,000.00
Payments in Lieu of Taxes—Game Lands			649.60				201,893.71
Refunds	1,686.15					201,244.11	1,686.15
Total Expenditures by Game Commission	\$387,706.44	\$591,903.95	\$884,966.77	\$1,603,270.73	\$40,627.56	\$3,006,855.11	\$6,664,751.76

Plus: Expenditures by Other State Departments from Game Fund

Department of Revenue—Printing Hunting Licenses, Tags, and Miscellaneous Forms (°)	\$113,277.93
Department of State—Game Commission's Contribution to Employees' Retirement System (°)	299,939.00
Department of Labor and Industry—Commission's Share of Employees' Social Security (°)	151,608.00
Department of Property and Supplies (Commission Share of Medical-Hospital Payments)	9,596.68
Treasury Department—Replacement of Escheated Checks (°)	664.35
Department of Forests and Waters—Commission Payment in Lieu of Taxes Under Project 70	3,815.07

TOTAL EXPENDITURES

\$7,243,652.79

Cash Balance in Treasury to Credit of Game Fund at June 30, 1967 (Includes U. S. Treasury Notes in the Amount of \$5,153,236.64) -----

\$6,370,226.75 (°°)

(°) These items are paid from the "Game Fund" upon requisition drawn by the various named Departments and are included to present a complete picture of "Game Fund" expenditures.

(°°) The stated balance does not include a \$50 Advancement Account drawn on the "Game Fund" by the Department of Revenue.

SCHEDULE II

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JUNE 30, 1967

Cash		\$1,216,990.11
Investments—U. S. Government Short Term Securities		5,153,236.64
Total Cash and Investments		\$6,370,226.75
Less: Liabilities and Working Capital		
Encumbrances—Game Commission	\$1,585,846.64	
Encumbrances—Department of Revenue	3,453.14	
Reserve for Working Capital	2,500,000.00	4,089,299.78
Net Balance Available for Expenditure During Fiscal Year 1967-68		\$2,280,926.97

EARMARKED FUNDS

RECEIPTS AND EXPENDITURES

ACT NO. 632, 1955

License Year	Antlerless Deer Licenses Sold	Minimum to be Expended	Expenditures	Expended Fiscal Year Ended	Over (°) or Under (—) Minimum
1957	334,683	\$334,683.00	\$104,218.85	1958	\$230,464.15—
1958	349,054	349,054.00	306,605.18	1959	42,448.82—
1959	369,409	369,409.00	370,647.80	1960	1,238.80°
1960	229,535	229,535.00	425,895.55	1961	196,360.55°
1961	210,840	210,840.00	361,196.19	1962	150,356.19°
1962	201,431	201,431.00	316,411.47	1963	114,980.47°
1963	204,068	204,068.00	305,583.16	1964	101,515.16°
1964	274,799	274,799.00	353,426.70	1965	78,627.70°
1965	261,283	261,283.00	311,111.10	1966	49,828.10°
1966	376,598	376,598.00	316,495.79	1967	60,102.21—

RECEIPTS AND EXPENDITURES

ACT NO. 271, 1949

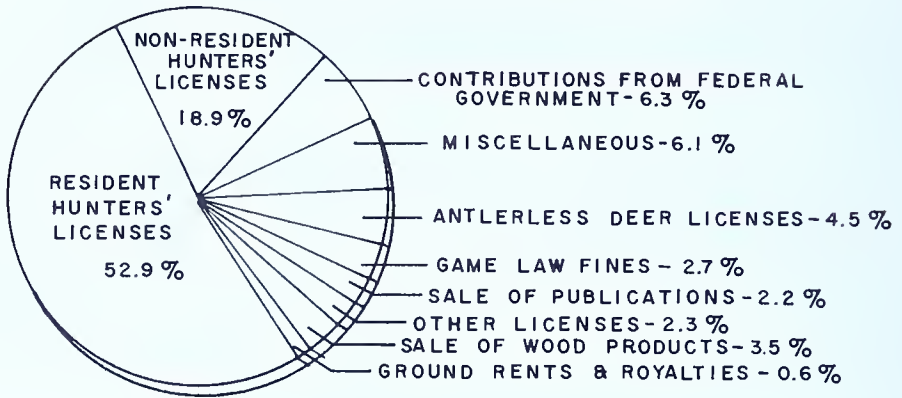
License Year	Resident Licenses Sold	Minimum to be Expended	Expenditures	Expended Fiscal Year Ended	Over (°) or Under (—) Minimum
1949	810,059	\$1,012,573.75	\$1,012,465.96 (A)	1950	\$ 107.79—
1950	801,948	1,002,435.00	1,266,856.18	1951	264,421.18°
1951	810,349	1,012,936.25	1,095,938.26	1952	83,002.01°
1952	830,147	1,037,683.75	1,163,287.09	1953	125,603.34°
1953	859,783	1,074,728.75	1,247,584.35	1954	172,855.60°
1954	869,286	1,086,607.50	1,215,543.03	1955	128,935.53°
1955	898,542	1,123,177.50	1,150,865.08	1956	27,687.58°
1956	902,540	1,128,175.00	1,280,927.58	1957	152,752.58°
1957	929,990	1,162,487.50	1,312,154.02	1958	149,666.52°
1958	943,340	1,179,175.00	1,261,098.24	1959	81,923.24°
1959	943,866	1,179,832.50	1,308,305.57	1960	128,473.07°
1960	949,365	1,186,706.25	1,894,854.64	1961	708,148.39°
1961	933,346	1,166,682.50	1,856,635.22	1962	689,952.72°
1962	926,976	1,158,720.00	1,599,871.34	1963	441,151.34°
1963	820,800	1,026,000.00	1,480,167.64	1964	454,167.64°
1964	868,972	1,086,215.00	1,630,906.74	1965	544,691.74°
1965	899,301	1,124,126.25	1,257,151.30	1966	133,025.05°
1966	930,000 (B)	1,162,500.00	1,677,374.98	1967	514,874.98°

(A) Expenditures from September 1, 1949 (Effective date of Act), to May 31, 1950.

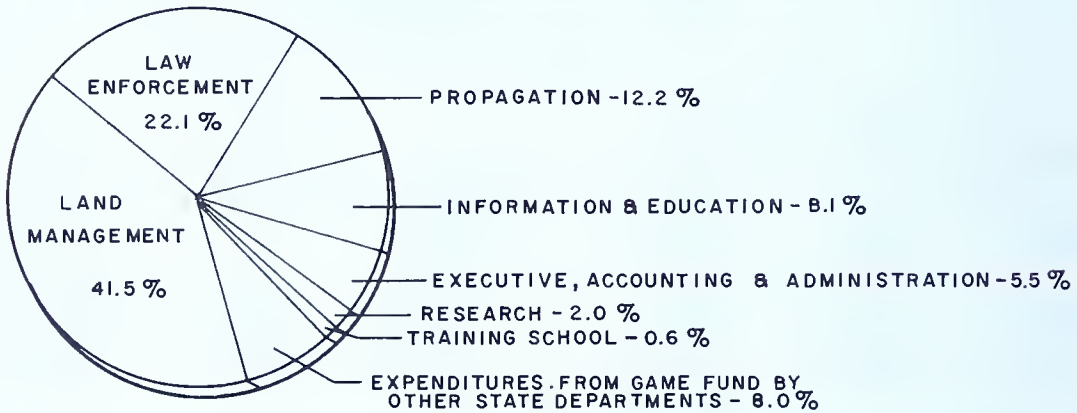
(B) Estimated License Sales.

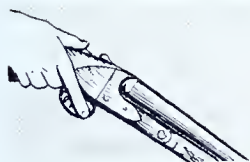
**The Cost of a Pennsylvania Hunter's License
Is One of the Best Bargains in the Nation**

Game Commission Revenue \$8,312,089.64



Game Commission Expenditures \$7,243,652.79





HUNTER SAFETY EDUCATION



By John C. Behel

PGC Hunter Safety Coordinator

Bow Handling Study

THE SECOND part of the firearm and hunter safety study to include safe bow handling has been completed by Dr. Frank Anthony, Associate Professor of Agricultural Education, The Pennsylvania State University, in cooperation with the Pennsylvania Game Commission, The Pennsylvania State Federation of Archers and the Pennsylvania Rural Safety Council. A slide lecture and an inventory of 50 questions have been developed to test the attitude of the experienced archer as well as the novice bow handler.

The slides, which were chosen after many hours of research by Dr. Anthony, have been viewed by a panel of experienced archers and teachers of firearm safety to review the basic fundamentals of bow handling. The beginning bow shooter receives basic safety knowledge from viewing the slide lecture. The lecture covers nomenclature of the bow, safe handling of a bow in the field while target shooting and hunting, hunter-landowner relations, and hunter responsibility. The bow handling attitude inventory shows its value in training, as did the firearms attitude inventory, by being used before and after the slide lecture. Used as a yardstick to measure the effectiveness of teaching

methods in hunter safety education, the attitude inventory has proven useful to teachers and hunter safety instructors to determine the attitude each student develops in the safe handling of sporting arms.

There are a number of high points to look for in viewing the slides. These help to create discussion. Some of the highlights are the slides which name the parts of the bow and arrow and a slide showing the target area of a deer. This is very helpful in identifying the vulnerable areas for the archer.

In both the bow handling attitude inventory and slide lecture, Dr. Anthony has included safety indoctrination, while providing a basic knowledge in the use of a bow for the target shooter as well as the hunter.

The following 50 questions on bow handling are being used in Pennsylvania's Hunter Safety Program. Rather than saying there is an absolutely right or wrong answer to each, it has been found that the extent to which a novice agrees or disagrees with a statement gives the best indication of his attitude toward safety and permits the instructor to change any incorrect views. See how your opinion on these compares with those of Game Protectors and experienced archers.

First Special Season

The first statewide hunting season during which bows and arrows were the only sporting arms that could be used was set in 1951. Licensed bow hunters during the two-week deer season totaled 5,542 and reported a kill of 32 deer.

PENNSYLVANIA'S HUNTER SAFETY PROGRAM
ADMINISTERED BY THE PENNSYLVANIA GAME COMMISSION
DIVISION OF INFORMATION AND EDUCATION

ATTITUDE INVENTORY FOR BEGINNING BOW SHOOTERS

By Dr. Frank Anthony

ASSOCIATE PROFESSOR OF AGRICULTURAL EDUCATION
THE PENNSYLVANIA STATE UNIVERSITY

1. Name Age

2. Have you had archery instruction? Yes No

Directions:

Place an X over the letters which most accurately indicate your opinion of each statement. SA—Strongly Agree, A—Agree, U—Undecided, D—Disagree, SD—Strongly Disagree. Read each statement carefully, and yet do not spend too much time with any statement before checking each one.

- | | |
|-------------|--|
| SA A U D SD | 1. Archer's equipment is not nearly as dangerous as a gun. |
| SA A U D SD | 2. An arrow that is too short for you is safer than one that is too long. |
| SA A U D SD | 3. Women should use the same length of bows as men. |
| SA A U D SD | 4. Wood bows cast farther than fiber glass bows. |
| SA A U D SD | 5. It is safe to walk in bare feet in an archery range. |
| SA A U D SD | 6. Nock the arrow with the cock feather pointing away from the bow, not toward it. |
| SA A U D SD | 7. It is permissible to shoot an arrow that is cracked or warped for practice shots. |
| SA A U D SD | 8. Never draw a bow without an arrow in it, as it may be overdrawn and break or your fingers may slip causing the bow to break. |
| SA A U D SD | 9. Any pins, buttons or items in pockets should be removed from side of chest area facing the bow to avoid catching the bowstring on them. |
| SA A U D SD | 10. A steep rocky hill makes a good target area. |
| SA A U D SD | 11. Game laws are made to protect hunters as well as wildlife. |
| SA A U D SD | 12. The archer should have a clear view of the target before releasing the arrow. |
| SA A U D SD | 13. Never aim at anything you don't plan to hit. |
| SA A U D SD | 14. Check path to target because an arrow, like a bullet, will ricochet. |
| SA A U D SD | 15. Responsible hunters would approve of drinking a small amount of alcoholic beverage while hunting during cold weather. |
| SA A U D SD | 16. It is safe to climb a tree or jump a fence with the arrow as long as the bow is not drawn. |
| SA A U D SD | 17. Keep bow and especially all arrows out of reach of children. |

SA	A	U	D	SD	18. A white handkerchief may look like a deer's tail in the distance.
SA	A	U	D	SD	19. A beginning hunter should visit a game preserve or other place where game lives before going hunting so that he knows what game looks like in its natural surroundings.
SA	A	U	D	SD	20. Anyone can shoot a bow and arrow so instruction is optional.
SA	A	U	D	SD	21. It is safe to shoot an arrow straight up into the air if no one else is near you.
SA	A	U	D	SD	22. When stringing the bow be sure the string is secure in the nock at the bottom and top of the bow.
SA	A	U	D	SD	23. Proper stance is just for beginners; a good archer can shoot well in any position.
SA	A	U	D	SD	24. Buy a heavy bow since you may be able to pull it to full draw in a year or two.
SA	A	U	D	SD	25. You don't need a hunting license to hunt with a bow and arrow.
SA	A	U	D	SD	26. It is safe to carry the bow and arrow in shooting position while walking through the woods.
SA	A	U	D	SD	27. When shooting, make sure all persons are beside or behind the archer.
SA	A	U	D	SD	28. It is safer to wear dull clothes than bright clothing while hunting so other hunters can't spot your movements.
SA	A	U	D	SD	29. It is essential to cover hunting points with puncture proof material while carrying them.
SA	A	U	D	SD	30. Strung bows may be carried safely in a vehicle if the arrows are carried separately or in a quiver.
SA	A	U	D	SD	31. An archer has to know the vital areas of a big game animal to prevent crippling losses.
SA	A	U	D	SD	32. An archer should learn the maximum effectiveness of his equipment and not try to use it beyond this range.
SA	A	U	D	SD	33. An archer should strive for pinpoint accuracy when hunting to prevent crippling losses.
SA	A	U	D	SD	34. It is all right to shoot toward buildings because most arrows are not powerful enough to go through windows or walls.
SA	A	U	D	SD	35. Safety equipment (finger tabs, arm guards, etc.) need not be used when just shooting a few arrows for practice.
SA	A	U	D	SD	36. It is important to inspect bowstrings and arrows before using for faults they may have.
SA	A	U	D	SD	37. A good bow hunter shoots quickly.
SA	A	U	D	SD	38. It takes a great deal of practice to become a safe bow handler.
SA	A	U	D	SD	39. Rules of safe gun handling apply when hunting with the bow and arrow.
SA	A	U	D	SD	40. Every hunter should have the experience of shooting at a moving target before he goes on an actual hunt.
SA	A	U	D	SD	41. An accident is more likely to occur when safety rules are not followed.
SA	A	U	D	SD	42. A sportsman should get the farmer's permission to hunt even if the land is not posted.

SA	A	U	D	SD	43. If you are unable to pull the arrow back with just three fingers, use the entire hand.
SA	A	U	D	SD	44. Arrows have been known to have been shot over one-half mile.
SA	A	U	D	SD	45. Grip the bow as tightly as possible so the bow will not move when you release the arrow.
SA	A	U	D	SD	46. The hand that releases the arrow should not move forward and should release the arrow with a smooth, non-jerky motion.
SA	A	U	D	SD	47. It takes practice to hit the target at various ranges and under different conditions.
SA	A	U	D	SD	48. Archery is a safe sport and can be enjoyable if you follow the safety rules and learn how to properly use your equipment.
SA	A	U	D	SD	49. Hunting companions greedy for game are safe hunters.
SA	A	U	D	SD	50. Arrows are dangerous only when you shoot them.

Scaled Responses of a Majority of Game Protectors and Experienced Archers

1. SD	14. SA	27. SA	39. SA
2. SD	15. SD	28. SD	40. SA
3. SD	16. SD	29. SA	41. SA
4. SD	17. SA	30. SD	42. SA
5. SD	18. SA	31. SA	43. SD
6. SA	19. SA	32. SA	44. SA
7. SD	20. SD	33. SA	45. SD
8. SA	21. SD	34. SD	46. SA
9. SA	22. SA	35. SD	47. SA
10. SD	23. SD	36. SA	48. SA
11. SA	24. SD	37. SD	49. SD
12. SA	25. SD	38. SA	50. SD
13. SA	26. SD		

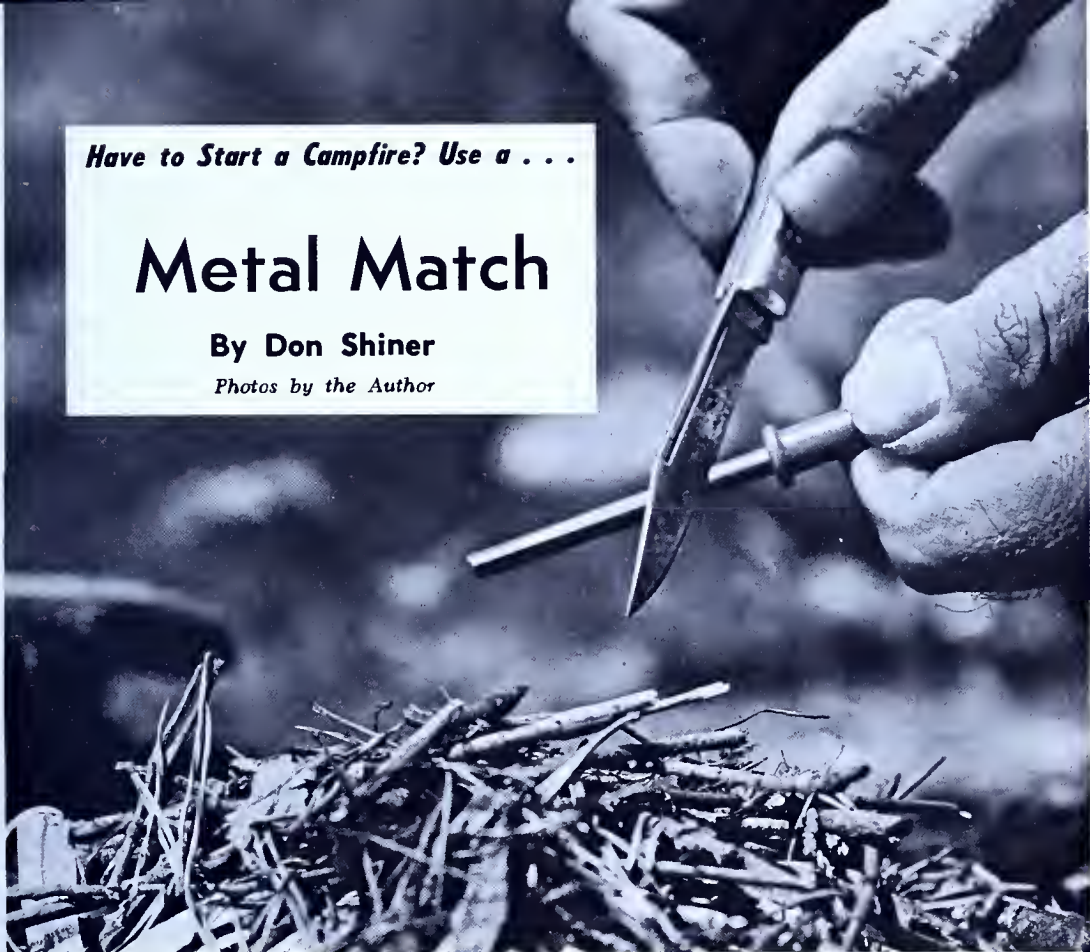


Have to Start a Campfire? Use a . . .

Metal Match

By Don Shiner

Photos by the Author



TO BUILD A CAMPFIRE, first collect small, dry tinder and carefully scrape off crumbs of metal from the "match."

EVER HAVE the frustrating experience, if not calamity, of trying to build a fire with wet matches when deer hunting in some remote area? It's futile. To keep from getting cold as stone you shiver, shake, run in circles, toe dance—anything to get circulation going again. You'd gladly pay ten, perhaps twenty, dollars for a dry match, and even more if survival depended upon it. What sheer delight it is to have some hunter, who happens along by chance, give you a dry match or two to get a fire going! You vow that this calamity will not strike again. And it need not if you include a metal match in your hunting gear.

What is a metal match? It is the newest fire starter to be offered to outdoorsmen. The match appears to be a small cylinder of ordinary metal. But similarity ends when a knife blade or sharp rock is briskly scratched across the surface. Sparks of tremen-

dously high temperature leap from the metal to start a fire. And the match will build upward of a thousand fires without wearing out. It is one more product resulting from the space age in which you and I live. The match is, in a sense, an epitome of man's long and historic quest for a means to build fire for a more comfortable existence.

Anthropologists say evidence indicates that early man, a cave dweller then, had access to fire during the Pleistocene period (Ice Age) and used it for warmth, protection from wild beasts and cooking purposes. Many theorists think that he obtained fire from trees set ablaze by lightning, and nurtured the flames in his cave for days—even months—on end.

Whatever the case, it was a monumental day when he discovered that the same burning fire could be drawn from wood itself, simply by rubbing



THE SECOND STEP is to forcefully scrape the knife blade across the metal match to shower tinder with hot sparks.

two sticks together. That he was unaware that friction caused the temperature of the sticks to rise to kindling point, is not important. The significant thing was that he could now build fire at his discretion, instead of relying on some electrical storm to provide the source.

Man eventually learned to chip axes from stone. He discovered that fire could also be drawn from stone. Later, he discovered that the sun's rays could be focused through glass, a curious substance he made from sand, to cause fire. Much later, as an alchemist, he uncovered another substance, phosphorus, which would ignite when warmed in the presence of "good air," or oxygen, a discovery that would one day lead to the invention of the phosphorus-tipped match.

Despite these newer ways of building fire, it remained a solemn ritual for a man, even as short a time as a century or so ago, to build fire for his family on the hearth of their home. Taking a small box containing pieces

of steel, flint and charred linen, he struck flint against steel, directing sparks onto the charred linen tinder. After some effort, one or so sparks would catch, causing the linen to glow red and begin to smoke. Blowing upon it, he would add a few dry shavings until the warm, bright orange flames appeared. Building a fire meant so much trouble in those days that hot coals were saved overnight by burying in ashes and coaxing alive again the next day.

First Phosphorus Matches

In 1827 the first phosphorus and sulphur-tipped matches appeared. Because they were handmade, they were so expensive that most families could ill afford to buy them. Machines capable of turning out millions of matches per hour became available during the Industrial Revolution, so cost was reduced. Today the match is so commonplace that little or no thought is given it . . . until of course, it becomes damp or wet.

Keeping the phosphorus-tipped match dry remained a constant problem. Even slight dampness turned the chemical "head" into a fireless paste. To overcome this, matches were dipped in paraffin, stored in watertight containers, or, of late, sealed in plastic. Still, no few hunters face hardship every year when, for one reason or another, their matches become damp.

It is therefore significant news when a match made solely of metal and completely waterproof becomes available. This new metal match may well change man's habit of relying on the phosphorus-tipped wooden splint for building fire.

As early as 1948, William Sampson, inventor of this new metal match and now president of the Ute Mountain Corp. (Box 2248, Grand Junction, Colo.) which manufactures it, produced the first sample match. But it was not until 1965 that he, together with John Watson and Joe Ulibarrie,

two close friends, found ways of making the product in a marketable form.

The match is really a man-made flint, similar to but much larger than that found in the familiar cigarette lighter. I have no definite knowledge on the manufacturing process, but the match is, quite likely, made of one or more of the so-called rare-earth or sparkling metals. Some fourteen rare-earth metals are known today, with cerium oxide being one that is mentioned frequently in connection with purification of rocket fuels.

High Temperatures

The rare-earth metals are mined as ore, with the extractions later compressed under heat and pressure (a process called sintering) to form solid cakes or bars. The process is most delicate, for small amounts of heat applied to the finely divided particles cause them to oxidize and burst into flame. The particles burn as "sparks," at temperatures estimated at 2800° F. Oddly, the metals are inert once they are massed into a large solid state.

It therefore proved no small chore to sinter the rare-earth metals into small bars of say $\frac{1}{4}$ " diameter. This was probably accomplished by handling the metal under a liquid to exclude air.

At any rate, small extruded bars are cut into convenient $2\frac{1}{2}$ " lengths. Each length is fitted with a key chain, for carrying purposes. The solid metal match can now be safely carried in a pocket. Only when a sharp tool is vigorously scraped across the metal bar will finely divided particles fluff off and oxidize into a shower of sparks.

Drawing sparks from the metal is one thing. Building a campfire via sparks is quite another. A few high temperature sparks falling onto a dry log will rarely start it burning. It is quite a chore unless the system worked out by the manufacturer and described in the directions accompanying the match is followed. The system is called, "ready," "aim," "fire." I have

built dozens of fires with this new metal match and find the procedure easy as falling off the proverbial log.

First, gather a handful of dry tinder—crumpled paper, dry leaves, grass, shreds of paper-thin bark from river birch or cedar, or the dry, small twigs of hemlock or pine. Tinder is stacked on a pile in the customary campfire fashion.

Then use a knife blade, piece of glass or sharp stone to carefully and none-too-forcefully scrape off fine particles of metal from the match. These crumbs are allowed to fall onto the tinder, without springing into sparks.

Now the builder is ready to scrape the match forcefully. Resulting pressure and friction from the knife or glass causes the fine particles to grow hot and oxidize immediately. The high temperature sparks drop down to ignite the metal crumbs and tinder. Building a campfire is as simple as that.

You and I will find many situations when this new match proves handy.

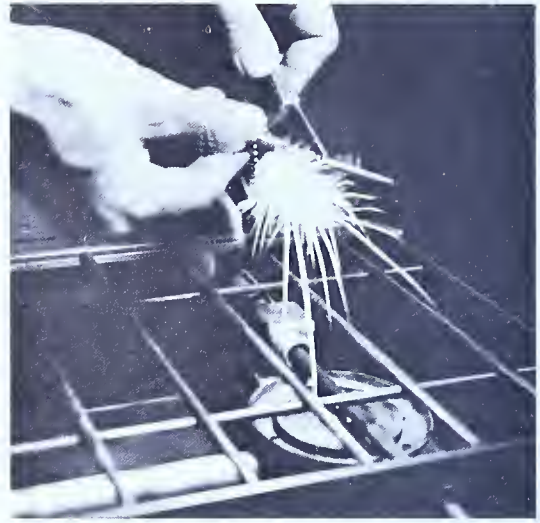
HOT SPARKS have ignited the crumbs of metal, which in turn start the tinder burning. Sparks may reach 2800 degrees Fahrenheit.



Good examples might be lighting the camp gasoline stove. With gas jet turned on, a stove is lighted quickly from the sparks scraped from the metal match. Likewise charcoal, saturated with lighter fluid, or a handful of tinder stacked carefully in a fire pit or behind a windbreak.

The small chain fitted to the match proves handy for looping to one's belt or the buttonhole in a shirt. The match can also be stored safely and handily in a compartment drilled into the stock of a rifle. Thus equipped, a hunter never need be without a source of fire.

The match is fireproof in the solid state, according to the company, and will not burn when thrown into a fire. It will melt when temperature becomes great enough. The metal is not brittle, so the match will not break readily unless given a severe blow. It won't deteriorate with age, or rub off onto your clothing or hand. It is waterproof. Experiments have shown that fire can be drawn from the metal match even when covered with beads of moisture or after it has been stored underwater for as long as two months. Lastly, when the knife blade is held



METAL MATCH can also be used to start a gasoline stove in camp—handy for non-smokers who often forget matches.

correctly while drawing off sparks, the metal match will sharpen rather than dull the blade.

The match can be a boon to the non-smoker who often fails to include matches in his gear during a deer hunt. It certainly can prove a lifesaver too for those others who, on occasion, get matches wet.

Described as an aid for survival, the new metal match is just that.

Hornady Reloading Manual

The *Hornady Handbook of Cartridge Reloading* is the newest aid for handloaders. It lists thousands of tested loads for 70 rifle cartridges from the 22 Hornet to the 460 Weatherby Magnum, and gives a short history of each—enough background so that even new shooters can get a good view of the overall cartridge development picture. Also covered are reloading techniques, components, etc. But perhaps the most interesting portion is a lengthy section on exterior ballistics based on the famous Ingalls Tables. These show velocity, energy, drop, midrange trajectory and bullet path over normal hunting ranges for all Hornady bullets started at all reasonable muzzle velocities. This makes a quick comparison of loads easy, and is extremely useful data. (360 pp., \$3.50. Hornady Mfg. Co., P. O. Box 906, Grand Island, Neb. 68801.)

Answers to Quiz

1. Robin, 2. Muskrat, 3. Cottontail rabbit, 4. Meadow mouse, 5. Ring-necked pheasant, 6. Red squirrel, 7. Red fox, 8. White-tailed deer, 9. Crow, 10. Raccoon.

Focus on Frontier

By Keith C. Schuyler

Photos by the Author

THOSE WHO KEEP up on archery in Pennsylvania all know that the southeast district is the hottest spot in the state. More than 25 percent of the bow hunters come from this area. However, archery really bursts into flame at the site of the Frontier Archery Club.

If you had trouble hitting your deer during the recent seasons, you might be interested in learning how they prepare down near Pottsville. For here, about five miles southwest of the city, is held an animal round which is unusual in archery. This is not to say there are no similar setups across the country, but certainly none do it in a more professional manner than this group.

Not a young club, Frontier was first formed in 1953 at Kennelworth, just south of Pottsville. Then the Tri-County Fish and Game Association formed a club on the present property. The archery group was invited in with the fish and game guys in 1958, according to Ed Morell, president, and since then they have worked quite smoothly together. The property consists of 56½ acres and the mortgage was burned in 1966.

Of the 240 members, over 80 percent are archers. Nevertheless, there is very little overlap in activity since most of the individual members are interested exclusively in either the gun or the bow.

This club is a bit different in that there is a relatively large group of members who pitch in to do the work. Earl Davis, vice-president, Ed John, secretary, and Ralph Weisser, treasurer, nevertheless have their hands full with the large organization. How-



COMPARISON WITH youngster shows the size of lifelike polar bear target. Materials used to fabricate these animals are semisecret.

ever, the real powerhouse is Vaughn "Andy" Anderson who is in charge of all field activities. On his shoulders falls the job of coordinating the animal shoots which have helped to make the club an outstanding success.

The clubhouse itself is a spacious building which accommodates the large membership. One end is devoted to storage space and a meeting



MEMBERS RELAX OUTSIDE CLUBHOUSE after final shoot of the year. The winter months are devoted to repairing targets and range.

room, and the important other end has a modern fully equipped kitchen. This kitchen is the property and province of the ladies. This may be one of the several keys to the success of this active organization, since the girls operate on their own budget while keeping the masculine members well fed at reasonable prices. The auxiliary has control of its own budget, but many of the outstanding facilities have been made possible through money raised in the kitchen.

The kitchen itself is equipped with both gas and electric stoves, steam tables, a deep freeze, deep fryers and all the other accessories needed to put out good meals. Here is one club with an indoor range (kitchen!) which really pays off.

Despite the unusually fine clubhouse accoutrements, it is the field range itself which provides the most practical example of how to be successful in organized archery. Walking along the 28-target course is like a stroll through a city park, although the range is situated well back in the country. Even I was able to find my

arrows while worrying the excellent targets as I photographed the 1967 3-D animal round. Although the two big public shoots held late each summer are the main attractions, the target butts are so well constructed that they take all the abuse that the many members can dish out during the nine-month shooting season. The range is closed down for shooting from the end of November until March.

Active in Winter

Although the range is inactive during the toughest winter months, the members are not. This is particularly true of Vice-President Earl Davis, his son Scotty, and Andy Anderson. This is a period when targets from the 3-D shoot are rejuvenated and new ones are constructed for the coming season.

This type of activity in total has moved the club forward, particularly during the last two years. All meetings are held in the clubhouse on the second Monday of each month. Membership is only \$4 the first year with a dollar of this being an initiation fee. So, subsequent dues are but \$3 an-



LADIES' AUXILIARY OWNS AND OPERATES fine kitchen which serves excellent meals at reasonable cost.

nually. One membership includes all members of the family up to age 16. Ed Morell divides his time as president with the duty of conducting all activities for gunners. The club is affiliated with the Pennsylvania State Archery Association.

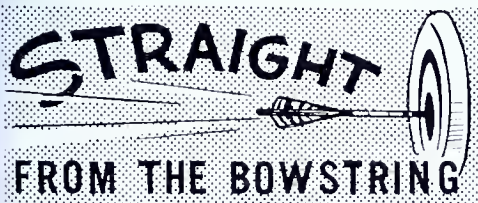
With this background it is almost a foregone conclusion that any activity attempted by Frontier archers would be a success. However, to get a firsthand view of the widely acclaimed 3-D shoot, I made the circuit at the tail end of the 1967 match with the bow in one hand and a camera in the other. My official guide was Andy Anderson who has had a personal hand in practically every improvement and activity.

Aside from the parklike appearance of the range, the shooting butts are

particularly impressive. These are constructed of excelsior bales outlined with heavy sheets of belting. Any arrow in the immediate target area can be easily withdrawn either from the butt or the target itself. Those which hit the belting usually drop to the ground or stick lightly without damage. Those that miss the butt completely can usually be found without difficulty in the well-raked areas behind the target.

Each shooting station is well marked, and a bench is available for those waiting their turn at each station. The favorite target is No. 18, since it is located next to a halfway house where coffee and soft drinks are dispensed.

To lend an aura of even more authenticity to the lifelike targets, the range was "decorated" with additional foliage. Corn was seen "growing" amid the trees, and many of the targets had foliage fastened about them to provide a more natural appearing setting. It is the targets themselves, however, which bring shooters in from many states to participate in the 3-D event. Most of them are constructed by





ANDY ANDERSON, one of club's driving forces, removes flying goose for winter storage. Note how branches at target area add realism to the shooting.

the father and son team of Earl and Scotty Davis, with Andy's assistance. Scotty, age 15, does a beautiful job on the targets. He made a special target for the last shoot which was a double-sized deer. It took him three months, working three nights a week, to construct this one target.

The 3-D replicas are constructed of a combination of styrofoam, burlap and whatever secret ingredients they put into them. They do not sell any targets. And, despite their amateur standing, these club members have produced some of the most natural appearing animals, birds and fish at which I have ever released an arrow.

Deer are painted in natural colors. They sport real antlers and are of a

size which makes shooting at them excellent practice for the deer season which is only separated by a month from the last 3-D shoot. Included in the targets is a huge snake which is one of the more difficult targets. The usual small game animals such as rabbits, raccoons, turkeys and woodchucks are mixed in with flying geese, deer, goats and a polar bear. Nobody is forgotten. There are even a couple fish mixed among the targets. No matter what type of archery hunting appeals to you, you will find targets to fit almost any situation you will encounter in North America.

Safe for Equipment

Because the targets, the butts and the range itself are so thoughtfully constructed and laid out, it is safe to shoot your finest equipment. Many do not hesitate to use their best aluminum arrows. Any but a glancing arrow is certain to stick in the target if it is a proper hit.

Only two 3-D shoots are held each year. The first is on the first Sunday in August, and the second is always on the Sunday before Labor Day. At the first shoot in 1967 there were 299 participants. On the last shoot there were 320, for a total of 619 participants. Many at the second shoot are repeaters for this highly popular event. Archers were present from such distant communities as Syracuse, N. Y.; Wilmington, Del.; Trenton, N. J.; and the New York metropolitan area.

Scoring for the shoot is based on the number of arrows, up to four, that it takes to hit a target. A hit on any part of the animal with the first arrow scores the maximum of 20. Each arrow thereafter reduces the score by 5 points, with a maximum of four arrows permitted. A hit on the fourth arrow, for example, brings a score of 5. Perfect for the course is 560, the same as for a regular field round. Prizes consist of trophies and lamps.

After the second shoot is held, all

targets are removed from the range. The course is so well laid out that it is easy to reach all targets by vehicle. During the relatively inactive winter months, members will repair damaged targets and build new ones for the current year.

Also busy will be Maurice Swartwood, in charge of novelty shoots. It is Swartwood's job to dream up money makers to occupy the time of those not on the regular range. An arrangement in which a ping-pong ball is supported in midair by a mechanical blower proved quite popular last year. There were 500 shots taken at the last shoot, with 15 shooters hitting the ball. Three winners were drawn from the number who scored, with half the proceeds going to them and the rest to the club.

They have a good thing going down near Pottsville. But it is a sure bet the boys won't rest on their laurels. Right now they are busy working and planning for the two big days of fun at Frontier late this summer. And there will be plenty of other activity during



SCOTTY DAVIS puts finishing touches on turkey target as his father, Vice-President **Earl Davis**, watches.

1968 at the Tri-County Fish-Game and Frontier Archers Association, Incorporated. Why not give some thought to developing a similar program at your club?

Sisters Give Hunters 252 Acres

A 252-acre tract of land in Limestone Township, Clarion County, has been turned over to the Pennsylvania Game Commission as a gift by Miss Netti Braden, Somerville, R. D. 2, and Mrs. Jennie Kiser, 301 Liberty Street, Clarion. Miss Braden and Mrs. Kiser are sisters. Food and cover for wildlife will be developed on the tract by Game Commission personnel, and the land will be open to public hunting. It is seldom that sportsmen benefit through such a kind offer.

Book Review . . .

The Wild Turkey and Its Management

This new book, *The Wild Turkey and Its Management*, is perhaps the most extensive publication on this fine game bird readily available to hunters. A collaborative effort of 19 experts, including Pennsylvanians Roger Latham and James S. Lindzey, it gives full treatment to all aspects of the wild turkey, from its historical origins to the latest management programs. Illustrated with photographs and drawings, plus fold-out maps and color plates, this 582-page book is available at \$6 from The Wildlife Society, 3900 Wisconsin Avenue, N.W., Washington, D. C. 20016.



HELEN LEWIS PROVES new rifle shoots well, with four starlings shot offhand at 45 yards using Remington M521-T and 6X Unertl scope.

Today's Gingerbread Rifle

By Don Lewis

Photos by Helen Lewis

"DO YOU HAVE time to mount a scope and zero in the rifle this evening?" the man on the phone asked.

"Well, it's rather hard to say until I see what all I have to do," I answered. "If the rifle must be drilled and tapped, I won't be able to get it all done tonight."

"You don't have to worry about that, it's a brand-new piece of scrap and the holes are already there," he said sarcastically.

"If you have the proper mounts and bases, bring it over and I'll put it on for you."

When I put down the phone, I wondered about the man's snide remark

about the rifle being a brand-new piece of scrap. I wondered what had him so riled up.

An hour later he came into the shop carrying a new 308. Along with it he had an expensive variable power scope and mounts. I knew at a glance that he had close to \$300 wrapped up in this outfit.

"It's a birthday present for my oldest son, that's why I wanted to get the job done tonight," he explained. "But I can't see why a man 40 years old, who has a fine rifle that was made back before the second World War, would want this mass produced piece of pot metal in a gingerbread stock."

"What's wrong with this gun?" I broke in. "This is considered one of the finest rifles manufactured today, and you bought it in an excellent caliber. Not only that, but this happens to be about as fine a variable power scope as you can buy."

"I know all about the quality of the scope and mounts," was his comeback. "I thought the least I could do was to put a top-notch scope on it. This should add a little quality to whatever you want to call this super duper deluxe outfit."

Likes Prewar Guns

Seeing that this man was really bitter about this new rifle, I thought it best to get the job over with as quickly as possible. Before I got the first screw in the base, he stopped me and asked me if I wanted to hear about some *real* rifles. There wasn't much I could say, so I just stood and listened for twenty minutes or so as he talked about several prewar rifles he owned that were masterpieces of skill and workmanship. Whenever I did try to point out that the rifles manufactured today had some quality in them, he just shook his head sadly and smiled. Apparently he thought I had to stick up for today's products. To clinch his argument, he emphatically told me that one of his 30-06s could put all its shots in the bottom of a Number 2 tomato can at 50 yards, and that his nephew had a similar rifle with a scope on it and he could duplicate this amazing feat way out at 100 yards. When I told my customer that the very rifle he had brought in could easily do as well, he nearly exploded. It took him another five minutes to tell me that he had hunted since 1910, and had owned rifles that *were* rifles and he knew good and well that there wasn't anything being slammed together today that would match the accuracy of a prewar rifle.

I finally got the scope on and aligned with my collimator. When I nestled the rifle deep in the sand bags

on my benchrest, I told the elderly gentleman it would only be a matter of minutes until we knew how well this rifle would shoot. He replied without any hesitation that he already knew, but since I was an admirer of the modern day conglomerations with their gingerbread stocks and plastic decorations, he would allow me to show him.



PRESSED "checkering" and plastic fittings leave Lewis cold, but do not harm gun's shooting capability. Hand checkering would boost gun's price greatly.

It took several shots to get the bullets hitting above the bull. Then I asked him just where he wanted the group to form. He laughed and asked me if I was "putting him on." He told me to get as close to the bullseye as possible and he would be satisfied.

I don't mind saying that by now I was irked. I made up my mind that I would shoot a group that would make him wish he had been a little less critical. I cranked the scope to its highest power and began to shoot a five-shot group. I took a lot of time, but the results were worth it.

"Take a look at the right-hand target," I said getting up from the bench. "I think you'll be satisfied when you see how well your son's rifle shoots."

He studied the target through the spotting scope for almost a half minute before he raised up and said, "I just don't believe that all those shots are just above the bull. I want to go out and see that target."



SIGHTS ON SOME of today's guns would not stay in place—inexcusable workmanship, Lewis feels.

"Come on," I said, "I'll even give you the target for your trophy room."

When we arrived at the target house, I cut the target out of the roll and held it up for him to see. As he studied the group and counted the shots several times, he pulled a very small lighter from his pocket and lit a cigarette. When I took his lighter and covered the entire group with room to spare, he just shook his head in disbelief.

"What have you got to say now?" I asked.

"In sixty-nine years of living, I should have learned that a still tongue makes a wise head. Tell me, will all new rifles shoot like this?"

"No, this seems to be an exceptional rifle. But I will say that the modern rifle, despite all its gingerbread and plastic decorations, will do better than it gets credit for. And usually better than the old rifles we always talk about."

Irritating

Sometimes I get irritated when I hear about the fine old rifles that Granddad and Uncle Charlie used. I'm really fed up with the constant criticism that is heaped upon the modern hunting rifle. It seems that a great many shooters feel that if they don't own a pre-World War II rifle, they don't have a decent gun. They

automatically accept the oft-repeated theory that everything produced after that time is just a mass-produced, inaccurate, low quality piece of merchandise. Although they take great pains to emphasize that the new rifle is a product of poor material and workmanship, I think their biggest complaint is that it won't shoot like the hand-rubbed jobs made back in the good old days.

Every time this argument is tossed at me, I recall an article I read way back in the late '30s. A well-known rifle expert of that era, now deceased, made the statement that the average hunting rifle of his day would be hard pressed to keep all its shots in a three-inch circle at 100 yards. I can honestly say that in the last ten years I haven't shot a new rifle, of reputable make, that didn't equal or do much better than that. I will admit that all the rifles I fired had scopes on them, but this doesn't determine a rifle's accuracy potential. Less than an hour ago, I fired a Savage 99C in 308 caliber that produced a five-shot group of 1½ inches. Last evening I fired a Remington 760 in the 30-06 caliber that did just as well. In the last eight days

PREWAR RIFLE with high mounted scope. Height made it difficult to solidly cheek stock, which in turn made shooting difficult.



I have fired eleven new rifles, in a variety of calibers, and not one of them spread a group of much over two inches. When you consider that these rifles will probably do better after a few score rounds are fired through them, I ask in all fairness, what more do you want? The old rifle expert of many years ago might agree that stamped steel parts, pressed checkering, and gold painted triggers show a lack of quality, but I feel pretty certain that he wouldn't condemn the rifle of today for its accuracy.

Sight Problem

From my point of view, after having worked on a good many new rifles, I do think the gun designers are giving little attention to the sights installed on new rifles. I see no sense in putting on sights that won't hold their adjustments. Twice last week I worked on new rifles that had rear sights I could push out of the barrel groove with my thumb. Even after I peened them tight, I could move the shank of the sight an eighth of an inch left or right. It would be impossible for this type of sight to ever be accurate. A stamped steel trigger or plastic trigger guard won't make a rifle unfit for use, but a flimsy sight that's only half anchored can play havoc with any rifle's accuracy.

Rifles with low-comb stocks should have high quality iron sights, and rifles with the high comb or Monte Carlo stock should not have open sights since these stocks are designed to be used with a scope. I have pointed out this sight predicament because no rifle will perform any better than its sighting arrangement.

Instead of relegating all modern products to the ranks of mass-produced, inefficient blunderbusses, we should be more interested in finding out what benefits the modern rifle has to offer. If the rifle we buy today is capable of giving us years of accurate shooting and dependable service, why



THESE FIVE SHOTS, fired at 100 yards from a new rifle, all would have hit a half dollar. Few prewar rifles did this good.

should we yearn for something simply because it is prewar? An objective look at today's rifle might awaken us to the fact that we can be proud to own one.

One of the benefits the new rifle offers is its light weight. Many popular old guns weighed around nine pounds, compared to six or so in the new versions. No one can deny that three pounds means a good bit on an all-day hunt. Some of this weight was eliminated by making the rifle shorter. This gives the hunter a light, handy rifle that he can swing with ease in the thickest brush. The famous 30-40 Krag rifle is a good example of over-weight and over-length. I get an occasional one in the shop, and I'm not quite sure if it will be used for hunting or pole vaulting. When you hold one of these uncut Krags beside a Remington 600 Carbine, for instance, you can hardly believe what you see. The

speed and agility that the lightweight, short rifles offer the hunter are factors that must be considered important.

Another smart alteration used in several new rifles is the detachable clip magazine. Whether we like it or not, our modern hunters move more on wheels than on legs. They may change locations four or five times in one day. This requires a lot of loading and unloading, as all guns must be empty when in a car. Throwing the shells in the snow or mud from a bolt, pump or lever action rifle is not only slow and messy, but it's darn dangerous. I recall a deer hunt I was on back in 1939 when a member of our party discharged his rifle while pumping the shells out one by one. Luckily no one was injured, but the bullet went through the front fender of our car and destroyed a tire. The clip does away with the slowness, the mess, and the danger. Touching a button drops the clip into the hunter's hand and opening the action empties the rifle. This makes the rifle safe.

By taking an unbiased look at the

modern hunting rifle, I think it's only fair to give credit where credit is due. There is no question that many modern rifles lack the handwork and some of the extra machining used on prewar rifles, but if some of the old methods were still used, many of us could not afford a new rifle. Perhaps I have a twisted view of what a rifle should mean to a shooter, but I just can't place inordinate affection on any gun. My philosophy toward a rifle is that only accurate rifles are good rifles! As a gunsmith, I appreciate good workmanship and good material, but I can't overlook what a rifle has to offer the hunter. I just won't classify a rifle as gingerbread and pot metal when I know that it is actually extremely strong, a pleasure to carry, easy to handle, and can put most of its shots in a half dollar at 100 yards.

The new product will shoot with the best of them. If you're determined to own a fine rifle, chances are you won't have to look farther than the nearest gun store.

Shooting for the Future

Shooting for the Future, by Jim Murphy, is a highly informative 24-page booklet that outlines many of the services hunters have performed for conservation. It will prove highly useful in explaining shooters' activities to the uninformed. Single copies free from National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878.

Book Review . . .

Principles and Practice of Loading Ammunition

The handloading of rifle and handgun ammunition is one of the most popular gun-related hobbies, and we get many queries about books on the subject. There are, of course, many good manuals that list tested loads, but the outstanding book is Lt. Col. Earl Naramore's *Principles and Practice of Loading Ammunition*. This 952-page volume does not carry a single table of loads. But it does explain the *how* and *why* of practically everything of importance to reloaders—factors affecting case life; headspace; ignition; smokeless powder manufacture and combustion; measurements of velocities and pressures; comments on interior and exterior ballistics; loading equipment and its use; method of estimating pressures; and scores of related subjects. The answers to most reloading questions are in this book. (Stackpole, Harrisburg, Pa., \$12.50.)

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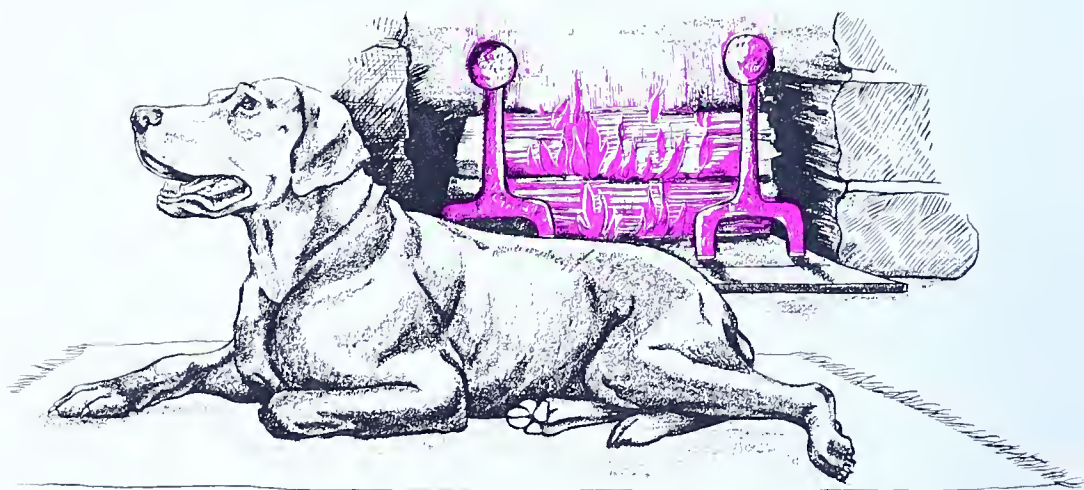
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COVER PAINTING BY J. M. ROEVER

The beaver, nature's chief lumberjack and dam designer, engineer and construction worker, is the Pennsylvania trapper's highest prize. Nearly 3000 of the flat-tailed furbearers were tagged in the state last year, and the average pelt brought \$12.57 to the trapper. This year's beaver season opens at 7 a.m. on February 10 and closes at noon on March 10. For information on the big furbearer, see page 6 of this issue.

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Eutrophication . . .

OF ALL THE life species on earth, man is the only one that knowingly gets his drinking water from sewers. He knows he does this, because he is responsible for the condition. For the past 350 years in this country, we have been blithely using our rivers, streams and lakes as depositories for anything and everything we want to get rid of. When there were few people and lots of water, maybe such actions were understandable even if not to be condoned. Today they are inexcusable.

At this moment, scarcely ten generations after the Pilgrims' arrival, it is doubtful if anywhere in the 48 contiguous states is there a natural, unpolluted gallon of water. Americans are efficient, if nothing else, even when it comes to despoiling their own country.

Which brings us to that big word at the top of this page—eutrophication. This is the process by which a body of water becomes rich in dissolved nutrients, with a seasonal oxygen deficiency in the hypolimnion (the stagnant water of essentially uniform temperature at the lower level of a lake). At first glance the fact that water is "rich in dissolved nutrients" may seem a good thing. But it isn't.

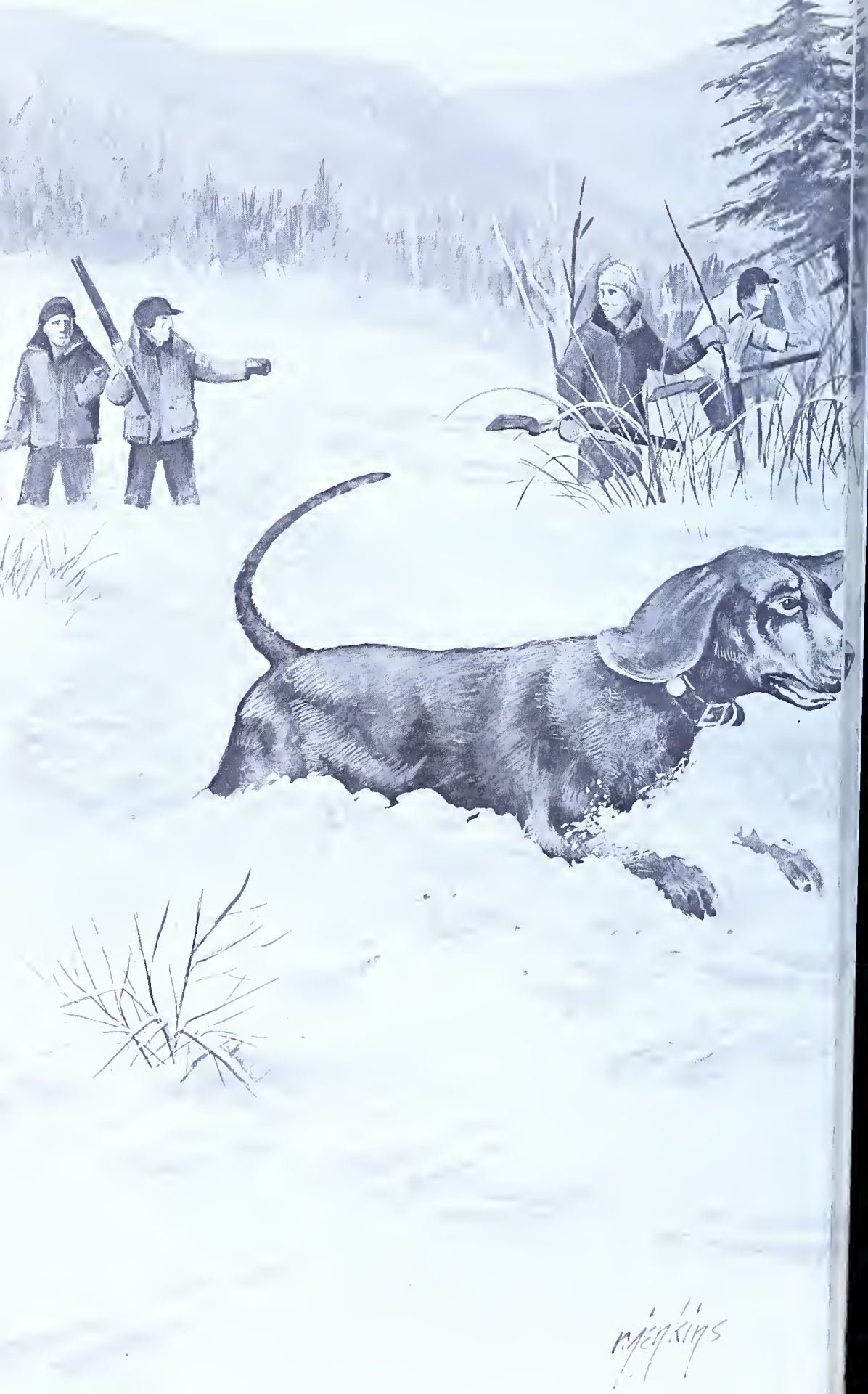
The dominant nutrients here are phosphates which come from housewives' detergents, organic fertilizers used to increase crop yields, etc. Directly or indirectly, these often end up in lakes. Here, a low form of plant life—algae—responds to this phosphate enrichment. As time goes on, aquatic weeds develop, followed later by more advanced forms of vegetation. Eventually, this growth simply takes over, figuratively choking a lake to death. Instead of pure water, we have a swamp; eventually, dry land.

Eutrophication is a natural process, of course, and was going on before man arrived on earth. But since our thoughtless involvement, it has been speeded up at a fantastic rate, due primarily to population growth, urbanization, industrialization and technological "advances." The degree to which it has taken over is shown in the Great Lakes. Lakes Michigan and Ontario are showing definite signs of advanced aging, and in Lake Erie, the only one of this group that touches Pennsylvania, the process is so far advanced that many people consider this body of water dead.

The incredible part about this is that we know how our actions emphasize it, we know that our future depends on eliminating such actions, and for the most part we know how to eliminate them. We just don't do it. The ultimate reason, of course, is the cost of such a program. We can spend billions to go to the moon (where eutrophication probably doesn't exist due to the absence of water), but we won't spend the money to beat this problem here on earth.

Work is being done, of course. Some soap companies are trying to find substitutes for phosphates in their detergents, the Federal Water Pollution Control Administration is making advances, and there is new Federal legislation in this field. With more help and encouragement from us, maybe the work of interested organizations would go a little faster. And maybe our children—or grandchildren, perhaps—will one day get a drink of cool, pure water.—*Bob Bell*





W. J. KINGS

A Snowshoe Hunt With Brownie

By Dick Donahoe

THE "rise and shine" weatherman had given the forecast—cloudy and cold, with a high between ten and fifteen degrees above zero. I kept this in mind as I dressed.

I left the house a little after seven o'clock, drew in a full breath of crisp air and wondered if this was the kind of day a truly sensible man would choose for his first try at "white rabbit" hunting. I picked up Charlie and Don, two hunting companions, and headed down the pike toward Dushore. We were going to hunt snowshoe rabbits. As we rolled along the conversation went from the past hunting season and how fast it rolled by, to the coming hunt. None of us had ever hunted snowshoes, so we were quite anxious.

At Dushore we met Pete Adams and his dog, Brownie. Pete was our host for the hunt and Brownie would be giving chase. "If there's a rabbit in the area, Old Brownie will run it out to you," Pete told us. I must admit I was a little skeptical. Brownie, a mongrel with a little black-and-tan showing through, stands just about fifteen inches tall. We were heading for a swamp on Red Rock Mountain where there was eighteen to twenty inches of snow. How Brownie was going to run in that much snow, I just couldn't figure.

We reached our destination about nine o'clock. The swamp was located about a quarter of a mile from where we parked. We loaded up and headed down a log road. The snow was powdery, the sky was overcast in winter gray. We hadn't gone far when we saw our first snowshoe track. Brownie took a sniff but wasn't interested. "Not fresh enough," was Pete's observation.

We headed into the swamp and spread out, wading through a good twenty inches of powdery snow. Before long we were seeing tracks all over. Those bunnies really get around on their built-in snowshoes. The alder and snow-covered hemlocks were so thick our field of vision was about ten yards. I wondered how we could ever see a rabbit in a place like this, especially a white one.

Pete yelled over and asked if Brownie was in sight. He said he thought he'd found a fresh track. We stopped and whistled and called. Finally Brownie appeared—following in my tracks! Smart dog, I thought.

Pete called her over and it wasn't long before the cold stillness of the swamp was cut with sharp yelps as Brownie started her pursuit. Pete told us to make our way to the far end of the swamp, where it wasn't so thick and our chances to see the rabbit would be better. It took us quite awhile to reach the open end, but Brownie was still hot on the trail, working back and forth through the swamp.

Old Stump Stand

I picked an old pine stump for my stand. This gave me a comparatively good view through the alders and highbush blueberries that covered the area. I had only been there a few minutes when my eyes caught movement to my right. At least I thought I did. Sure enough—there came a snowshoe! That sight I shall never forget. It was the first time I had ever seen one in the wild. It was coming along at a steady pace, but not too fast, its off-white coat blending well with the shadowed snow of the swamp.

The small patches of dark fur on its big ears made it easier to follow as it moved along. It stopped for a moment to sound out Brownie. As I raised my old double barrel, it took off to my right. I fired. It disappeared. Must have got him, I thought to myself.

"Did you get him?" Don yelled.

I told him I thought so. I moved as fast as possible to pick up my prize.

It was easy to see where the shot had hit the underbrush and snow. But not the snowshoe. And there were the fresh tracks continuing on through the thick clump of alders.

Here came Brownie, jumping and pawing her way through the deep powdery snow. The chase had already lasted about thirty minutes. How Brownie managed to keep on the trail sure amazed me. I stood still for a few minutes, listening. "Which way did it go?" yelled Don.

I told him I thought it was heading back up the swamp towards the heavy underbrush. Brownie's barking also seemed to indicate that it was heading in that direction.

I called to Pete and Charlie to be on the alert. Don and I decided to follow on either side of the track. The swamp was well covered with tracks,

WE FOUND WHERE the snowshoe had sat near an old stump and watched as Don and I passed by on each side.



new and old, and it was hard to stay with the one I'd shot at. Also, he was making good time.

It seemed to be up to Brownie now. She was still hot on the trail. Listening to her work the track, we could tell that this snowshoe was using all of its tricks in an attempt to throw the dog off the track. By the time Don and I reached the thick end of the swamp, Brownie had cut back and forth in front of us a couple of times. Then it sounded like she was heading to the far end of the swamp again.

Open Woods

Don and I decided to head for the open woods at the edge of the swamp and make our way more quickly to the far end. Pete and Charlie said they would work down the middle. We turned around and backtracked for a short distance in order to find our way to the far side. I had gone only about forty yards when I noticed a fresh snowshoe track crossing the tracks that I had made just minutes before. I called Don over. We backtracked the snowshoe and found where he had sat near an old stump and watched as Don and I passed by on each side of him. We felt sure it was the one we were after, and we made a few comments, then continued on until we hit the edge of the swamp.

We were making good time along the edge when I came across a fresh snowshoe track that came from the swamp and headed up toward a small laurel thicket on a bench about a hundred yards away. I called Don over to examine the track. It was fresh and it appeared that this hare was in a hurry. We decided to follow it. I stayed on the track and Don flanked me about seventy-five yards to the right. Just as I was entering the laurel thicket, Don's gun cracked. "I got him!" he yelled.

I went over and sure enough—there it was, a fine big snowshoe. Don had made a clean kill with a shot on the right side.

Then we realized that Brownie was still barking trail. We wondered if she was on another fresh one. We made our way to the edge of the swamp and called Pete and Charlie to join us. While we waited, we tried to determine which way Brownie was going. It soon became quite clear that she wasn't going, but rather coming. Then we saw her, still jumping and pawing her way through the deep snow, and still on the original track. It was amazing that a dog could stay on a trail under the conditions that existed. As she came by, we called her, but she stayed right on the track. We had to grab her by the collar and restrain her until Pete arrived on the scene. We rubbed her down and tried to remove the ice balls that had formed between her toes, then showed her the hare. She gave it a few sniffs. I think she finally realized that the chase was over. It had lasted almost an hour and she had put up a superb performance.

We did get two more snowshoes before we called it a day, jumping both out of the thickets that flanked the main swamp. Brownie stayed close to Pete on these. She didn't seem to want to run anymore and appeared tired. But this was understandable. You see,



Brownie isn't an ordinary hound any longer. Brownie had given us a chase that can only be described as "almost unbelievable" at the age of eighteen years!

At the time of this writing Brownie is nearing her twentieth birthday. Pete reports that she is still eager to give chase and did so this past snowshoe season. He said that she does seem to tire more quickly and requires more rest between chases. But as all of us who have enjoyed hunting with her agree, "Old Brownie" is quite a dog and for us will always rank among the best rabbit and snowshoe hounds ever to bark a trail in Penn's Woods.

CONSERVATION CREED

I will pledge myself, as a responsible human, to assume my share of man's stewardship of the natural resources of the earth. I will use my share with gratitude but without greed or waste. I will respect the rights of others and abide by the law. I will support the sound management of the resources we have despoiled and the preservation of significant resources for posterity. I will never forget that life and beauty, wealth and progress depend on how wisely man uses these gifts—the soil, the water, the air, the minerals, the plant life and the wildlife. This is my pledge.



The Beaver in Pennsylvania

THE beaver had more to do with settling this country than the buffalo. They were sought eagerly for their fur by the early pioneers, and as their value increased hunters and trappers everywhere vied with one another in the traffic of their pelts. Trapping beavers became quite an industry and ranged into new territories rapidly; consequently, many trading posts were established, and later, towns.

History students know the thrilling story of the fur trade, and how agents of John Jacob Astor, the Hudson's Bay Company, and other trappers preceded even the prospectors for gold; in fact, they were among the first to traverse our wilderness. During those days beaver skins were used extensively in Europe in making top hats, and out of the urge to cater to that early-day fad grew a business so gigantic as to reach into almost every part of the North American continent.

Years passed, during which the beaver supply was drained almost to the point of extermination. Today, however, through restocking and protection they have increased in many parts of the country.

Beavers were once abundant in different sections of Pennsylvania. But they, too, disappeared with the advance of civilization. All that was left to tell the story of these famous animal engineers a half century ago were such names as Beaver Dam, Beaver Creek, Beaver Meadows, and Beaver County; and occasionally someone, while wandering through the wildest portions of the mountains, found the remains of their ancient dwelling places.

There are few records concerning the last known colony in the Commonwealth, and these do not agree. Abraham Neveling of Coalport, a well-informed naturalist of former years

once stated: "The last beaver was trapped in Clearfield County in 1837." Another old record tells us that one George K. Boak of Pine Glen claimed the animals were to be found in Centre County in 1867; and still another includes a statement from a Mr. Seth Nelson of Clinton County which goes on to say that the last beaver was killed on Pine Creek in 1884.

Protection Recommended

The Annual Report of the Game Commission for the year 1902 by Dr. Joseph Kalbfus, then Secretary of the Commission, reads: "We are reliably informed there is still a colony of beavers in the state; they are found in the wildest portion of a wild section. There is no possible way whereby harm can come to any individual or the state through their absolute protection. A sufficient increase in their numbers might result in benefit to the state, and we recommend a law protecting this animal in the Commonwealth."

The movement to protect the beaver was received favorably, for during the Legislature of 1903 a law was passed prohibiting the capture or killing of beavers, violation thereof entailing a penalty of \$100.

No records at hand make reference to the beaver from 1902 to 1915. During that year a committee composed of members of the Wisconsin Legislature visited Pennsylvania to study methods of reforestation. That visit marked a new epoch for the beaver in Pennsylvania.

Some of the visitors, while looking over certain forest lands in Potter County, pointed out that conditions were ideal for beavers. (At that time Wisconsin was giving beavers protection.) The seed they sowed found fertile soil, but it was not until 1917 that any definite restocking program was undertaken, and then only as an experiment. In the summer of 1917 a pair of beavers was presented the Game Commission by the state of

Wisconsin and released in Game Refuge No. 17 near Sizerville, Cameron County, on what is known as East Cowley Run. They at once went to work and built a dam and house, and the following summer raised a family of young. In the spring of 1918 the young beavers moved to other locations on the same stream and built dams, and by the fall of 1919 the whole valley for a distance of nearly a mile was a series of dams, one above the other.

In September, 1919, a pair of these beavers located on Parker Run, about nine miles from the original dam, and the following summer reared young. At about the same time a pair located on Hunts Run, seven or eight miles in the opposite direction. They also built a dam and house, and the following summer raised young. In the spring of 1920 beaver cuttings were noticed on other streams in the locality, many miles distant from the home dams. One dam was found on the headwaters of Bailey Run. Examination of this dam and house revealed, however, that it was established in 1919. In the summer of 1922 a survey showed three well-established dams on Hunts Run, two on Bailey Run, two

BEAVERS eat aspen, poplar, willow, black alder, wild cherry and many other kinds of bark.

Photo by Leonard Lee Rue, III



on Parker Run, and while trapping bears in McKean County during July, 1922, Harry VanCleve, former trapper of the Commission, found a dam with two adults and five young on the left branch of Potato Creek.

By this time all of the streams in southern McKean and most of Cameron Counties were well stocked with beavers—all believed to be the offspring of the original pair from Wisconsin.

Numbers Increase

During the summer of 1921, C. E. Logue, another former trapper for the Commission, caught three beavers at the original dam in Cowley Run. These were released near Woolrich in Clinton County, where they located on Staver Run. There they increased to such an extent that they built and occupied five or six dams on various nearby streams. This is as far as the offspring from the original pair were traceable as they hopelessly mixed with beavers subsequently purchased from Algonquin Park, Canada.

There is no question concerning the authenticity of the above records. There are few persons, indeed, who had such an opportunity to study these animals as had VanCleve and Logue, and that they thoroughly carried on their observations is certainly evident.

Experiment with one single pair of beavers having borne more fruit than was ever hoped for, the Commission purchased four pairs from Canada in 1919, twenty-four pairs in 1920, and six pairs in 1922, all of which were liberated on game refuges through the state. In 1924 an additional twelve pairs were purchased in New York State and also released on refuge areas.

It is virtually impossible to follow the spread of the animals after 1920, although every new colony was plotted on a special map in the offices of the Commission. This map was followed with much interest, and their occur-

rences in new regions were watched with the eagerness of a general and his staff noting the advance of an army into hostile territory.

The beavers, fortunately, had few obstacles to confront. Man harmed them hardly at all, and only a small number of prosecutions for molesting or killing them were brought since they were first given protection in 1903.

On March 19, 1929, a beaver was killed in a garden in the town of Colomsville, Lycoming County, several miles from any colony. The person who killed it stated that he did not know what kind of an animal it was.

Mr. VanCleve cites one specific instance of the killing of a pair of the animals by a bear, which located them in a burrow underneath two fallen hemlocks.

Like the many problems which followed the tremendous increase of deer and ring-necked pheasants in Pennsylvania, damage complaints also followed in the wake of the ever-growing number of beavers. This called for prompt action on the part of the Commission. Complaints usually referred to damage to commercially valuable trees on private property, burrowing under fields, flooding valuable lands and important roads, appropriating water-supply reservoirs as homes, retarding the operation of mills, and other forms of depredation or nuisance. In one case a beaver made his home under the framework of an old splash dam, using the natural pool below the dam for a bathtub. This animal grew accustomed to the many people who came to see him, and perhaps no other single animal had its picture taken as often as he.

At another time the beavers put the Cumberland Valley telephone lines out of commission for about twenty-four hours. They cut off two stout trees four and five inches in diameter which stood on a bank, their tops higher than the telephone wires. When the trees fell, they dropped on the

wires and interrupted phone service.

In still another instance the animals built a dam on the stream that supplies Philipsburg, Clearfield County, with water. The dam was blasted out with dynamite, but the animals built another, and again it was blown up. When the beavers constructed a third dam, it was decided to trap them.

Because of all these things, it was necessary, and is still necessary in many places for that matter, to live trap the animals and release them in other sections. This method of removing the creatures, while effective, is necessarily slow. However, it is perfectly harmless. For example: A large female beaver caught during the summer produced six living young the day following, an indication that the trap causes no injury to the creatures. Incidentally, the six young beavers were brought to the Harrisburg office of the Commission, where they crawled about the floor for awhile, causing much excitement and interest among the employees. They weighed only about a pound apiece, their eyes were open and the teeth of their lower jaws were almost fully formed.

Despite live trapping operations, beavers continued to increase so steadily, with a corresponding increase in damage complaints, that the Com-

mission decided to permit sportsmen to harvest the surplus from time to time. In this way the creatures would be kept well under control and the trapper would receive some monetary reward for his efforts through the sale of the pelts.

Accordingly, the first open beaver trapping season in Pennsylvania was declared statewide in 1934, from March 1 to April 10. Regulations provided that the animals could be taken by trap only and not shot, that one individual could not set more than ten traps, that he could not take more than six beavers, and that within ten days afterwards the pelts had to be taken before the Game Protector of the county in which they were caught to be stamped and sealed before the trapper was permitted to sell them legally. During that year 6,455 beavers were taken in 50 of the 67 counties.

All in all, a total of 88,142 beavers have been trapped in the state through 1967, with a value of \$1,380,660.

There is much yet to be learned about the habits of these interesting creatures. For instance, there have been differences of opinion among some authorities concerning the condition of young beavers when born. Some claim that the eyes are not open

FUR BUYER shows young trappers how to measure beaver pelts during beaver tagging day at Honesdale Armory.

PGC Photo by Steve Kish



and that the creatures are helpless for several days. That the eyes are open and the lower teeth through at birth was substantiated by observing a pregnant female which had been caught in a trap and subsequently placed in a small pond near the home of a Game Protector for observation. The pond was enclosed with poultry wire. Within was built a house of pine boards, four feet square and four feet high with a nest box inside. The house was arranged with an underwater entrance and with a door at the back for making suitable observations.

During the early morning of May 8, 1926, six baby beavers were born, with the eyes open and two lower front teeth fully formed. The two upper front teeth had already started to protrude through the gums. On May 11 these little fellows weighed about a pound each and were observed at the entrance to the house.

Beavers exhibit a most remarkable engineering skill. Their dams and houses are undisputed monuments to their painstaking efforts. Dams that have been torn out by man because they interfered in some way or another with his plans have been rebuilt again and again. Beavers work chiefly at night, and the person who approaches a dam at eventide may catch a glimpse of some of the colony swimming about. Usually it is only a glimpse because they are easily frightened and an alert sentinel will slap the water with his tail as a signal for the colony to dive. The beaver's tail

is broad, flat and hairless and is used as a rudder and propeller.

Beavers' houses of various sizes have been found and examined from time to time. These houses are built either along the bank or an island in the pond. With the erection of the dam the stream bank is submerged and the house is built upon an elevated portion of the bottom. For protection, the entrance to the house is always well beneath water-level. The nest is above water-level.

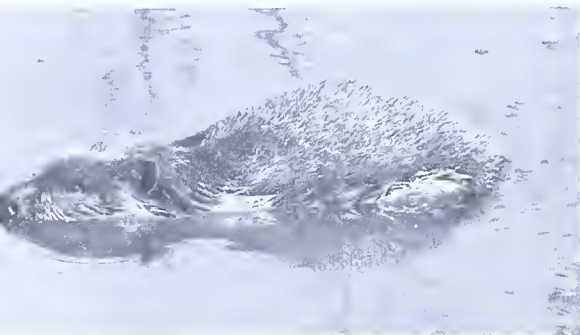
Three-Story House

We have only one record of a three-story house being found, although a number of two-story dwellings have been located. This house was almost perfectly conical in shape, about twenty feet through at the surface of the water and eight feet high. Upon opening it, a nice roomy compartment was found near the top, with a winding passage leading down more than halfway around the house into the first-floor compartment, and then to the water. A branch passage led from this circular staircase into the second or middle compartment. The foundation of this house was also crisscrossed with burrows. Twelve beavers were living in this conical mass of sticks, roots, grasses and mud, all of which were trapped alive and removed to another location.

There have also been differences of opinion concerning the gestation period of beavers. Ernest Thompson Seton gives it as three months, the mating season beginning about February and the young being born in late April or May. Young are anywhere from three to six in number, although the number observed about our colonies has usually been four or five.

In one pond with two houses an old female beaver was seen rising to the surface near one house with something in her mouth and swimming toward the second house, diving about ten feet from it. Coming back, she

Photo by Leonard Lee Rue, III



repeated the same tactics, and this time the observers noted that she was carrying a youngster in her mouth, holding it by the left side, apparently about the middle. The cries of the young could be heard in both houses until the mother had transported all of them to the second house.

Beaver Food

The chief food of the beaver is aspen or poplar. Observations about dams have shown that they eat willows and certain varieties of birch, black alder, and wild cherry. When these are exhausted, they peel the bark of white oak, pine and hemlock. They have also been known to eat the fruit and bark of apple trees. However, for the most part, trees preferred by beavers are not commercially valuable.

The weight of adult beavers in Pennsylvania, based on animals which have been held in captivity, or trapped, has ranged anywhere from 40 to 60 pounds, although certain individuals have been known to attain a weight of 100 pounds or over in a wild state.

Beavers have teeth like those of other rodents. Their eyes are small and their sight apparently not good. Their hearing is keen, however, in spite of their small ears. Their front feet, armed with strong claws, are used in digging, combing their fur, moving sticks, mud and stones in constructing their dams and houses. The hind feet, which are webbed, are adapted for use in water. The second claw on the hind foot is double. It is presumed that this claw is for combing their fur and removing slivers from their teeth.

The beaver has musk sacs or castors which produce an oily, heavily scented substance called "castoreum," which



PGC Photo by R. D. Parlamen

70-LB. BEAVER killed by car in Crawford County is weighed by PGC Land Manager Jim Hyde.

is used in medicine and perfume; also as trap bait. Beavers are very cleanly and are easy to tame.

A network of canals is often built in order to float food and construction material from more distant places when it is scarce in the vicinity of the pond. Food is stored on the bottom of the pond where it is available when the pond is frozen over.

A surprisingly large number of tourists from all over the United States make it a point, while traveling through Pennsylvania, to visit beaver dams wherever they are easily accessible. These dams are properly posted so they will not be molested by curious individuals. We hope to have these interesting creatures with us always, and so long as they can be controlled properly they will be given protection.

Duck Vision

Ducks see entirely different objects with each eye. Their binocular vision is limited to a narrow band ahead, upward and backward.



The Old Crow

By Paul A. Matthews

PEOPLE don't give us much credit. We're a scavenger, a predator and a varmint. And to top that, our brain isn't much bigger than the end of your thumb. But if you could set where I've set for the past eight decades an' watch the things I've watched, you'd realize that compared to people us crows ain't so dumb after all.

You're not convinced? Listen, buddy, at three hundred yards I can tell the difference between the sun glintin' off a rifle barrel or the crystal of your wristwatch. I can judge range to a gnat's whisker an' take off just as you're squeezin' the trigger. An' I've lived long enough to know the difference between honest to goodness crow talk and the canned stuff you try on me now and again.

Yessir! I've been here a long time an' there ain't much I haven't seen. Some of it's downright hilarious—or stupid — depending on whose eyes you're lookin' through.

Like one February a few years back—twenty or thirty years maybe—when the snow was light an' fluffy an' the wind had an edge like a razor. The sun hadn't been over the Buckhorn in better than a week, an' every rock an' boulder along Mallory Run was glazed with ice. Even the trees had that frozen dead look, an' from where I sat in the old hemlock you could see the deer shiverin' in their beds.

Back in those days there was an old duffer who lived in a cabin on the edge of the woods. You know the kind of a man I mean—a guy who couldn't read nor write an' spent a lifetime dressed in an old felt hat an' plaid checkered shirt an' a pair of turned-down hip boots. He spent most of his wakin' hours traipsin' the woods or the river, an' I never saw him without his old, scoped '06 Springfield.

Now that's the kind of a hunter a

crow has got to watch out for. Because even though this old duffer couldn't read nor write, he knew the woods like the back of his hand an' he handled that '06 like he'd used it a lifetime, which I s'pose he had.

Anyhow, that February morning I sat in the hemlock tight to the trunk an' who should I see shufflin' across the field but the old duffer. It's goin' to be another rough day, I thought, an' I leaned forward to take off just as he raised his rifle.

Hunters or Boys?

You know, a crow can separate the hunters from the boys as far as he can see them. Take the old duffer—he lowered his rifle almost as fast as he raised it, an' I knew in an instant that whatever he'd seen was either out of range or was movin' too fast for a clean shot. Because that's the way the old duffer was; he wouldn't pull the trigger until he was dead certain of the results. No wild-eyed, crazy shootin' for him.

So when he lowered his rifle an' kept comin' across the field like he hadn't seen anything, I made up my mind he *had* seen somethin', an' I slid off the limb in an easy glide that carried me treetop high across the gorge called Mallory Run.

Man! How I sailed on the wind that day! I knew the old duffer was watchin', so I skidded over the treetops weavin' back an' forth until I saw it—a big fluffed out blob of brown sittin' in a rock oak that was a grown tree when Lee hit Gettysburg. The biggest horned owl I'd seen in my life!

Now that's what I call a real hunter! Most folks figure that huntin' season is finished with deer season. But not the old duffer. He'd seen half a dozen places in the snow where grouse feathers were scattered about, an' he'd



I SKIDDED OVER the treetops, weavin' back an' forth until I saw a fluffed out blob of brown—a horned owl!

heard this old owl hootin' an' wailin' in late afternoons an' evenin's. He made up his mind to put an end to it.

But the owl was no dummy either. Like me, he'd see the old duffer comin' across the field, seen 'im raise the rifle and had guessed at his intentions. So he just set there until the old duffer passed from view behind a raise of land, an' then like the Ghost of Terrible Terry, spread his wings an' glided out of sight.

I could have tailed him right then, but I knew he wouldn't fly far and to miss the antics of the old duffer makin' a blind stalk would have ruined my day.

You would've laughed to see the old duffer the way I saw him that mornin'! The minute he got behind the knoll an' out of sight of the owl, he took off like a stiff-jointed bent-over giraffe and headed straight for a gully that angled across the fields to within a hundred an' fifty yards of the owl. An' when he reached the gulley, he got down on his hands an' knees and crab-walked through the snow for darned near two hundred yards. Then he poked his head up—real slow and cautious like—and discovered the owl had long since gone.

I laughed my egg-bustin' beak off!

Some of you people don't have much sense of humor. But you've got to admit that from my point of view it looked mighty funny to see a seventy-year-old man crawling through half a foot of snow on his hands an' knees with the wind screamin' like a banshee and the snow grits flyin' like birdshot just for the sake of shootin' at an owl! An' then the look on his face when he saw the owl was gone!

Owl an' Idiot?

Did he think the owl was an idiot? An' did he have to fire that blasted '06 at me just because I squawked in a laughin' tone of voice?

'Course, I saw it comin' an' jumped sixteen feet out of the way. An' then the old duffer simmered down and headed toward the woods where he'd last seen the owl.

For a few minutes, I thought I'd stay out of it—let the old duffer do his own dirty work. An' then I got to thinkin'. A horned owl is the most heartless critter in the woods; no pity for anything. He'll raid a crow roost at night just for the sheer joy of killin'—rippin' crows apart like they were rag dolls. An' he'll scatter the feathers on the ground like they were the stuffin's.

Nope. I've got no use for the great horned owl. They're born killers. An' in a life where only the fit survive, I felt no regrets about sailin' up Malory Run an' actin' as spotter for the old duffer.

Oh, he knew what I was doin', all right! I could see the grin on his face when I let out the first holler an' another crow on top of the Buckhorn picked it up an' passed it on. An' within five or ten minutes I had half the crows in Sheshequin Township swoopin' and divin' and makin' chandelles at old brother Bubo. Why we set up such a racket that February forenoon that the owl didn't hesitate a minute. He took off like a great winged leviathan — huffin', pumpin', clawin' at the air an' screamin' at the

crows around him—and streaked like a black shadow for the densest timber he could find.

Up near the headwaters of Mallory Run the timber is big an' gnarled an' old. It creaks an' groans in the winter winds, an' the fine grits of snow sift downward through a gloomy atmosphere to carpet the spongy compost that's been there for centuries.

This was the timber where Bubo went, big heavy stuff that grew far apart because the little stuff in between had been choked out. An' yet the very massiveness of the big stuff made it thick and dense.

Keep Him Comin'

We had left the old duffer about two miles back—out of hearin' distance because of the way Mallory Run is boxed in and bent by the overlapping ends of the mountains. So I had to fly back an' keep him comin'.

Oh, you people are sharp sometimes—just like a punkin'! You think I could make the old duffer understand what I wanted? Not by a darn site. He was shufflin' through the snow on his way back to the cabin when I spotted him, an' I had to yell from the top of a walnut tree until my face was purple before he'd take notice. An' then what did he do but try to get off a shot *at me*—an' after all I'd done for him!

But once I had him stalkin' me, the rest was easy, an' before long I had him workin' along Mallory Run again until he was within hearin' distance of the big fracas. Then he dropped me like a hot potato an' went straight for the owl.

It was a whale of a battle! More yellin', shoutin', screamin' an' divin' than a bargain sale at a clothes counter. We tormented the life out of Bubo—dove in on him five an' six at a time to keep him occupied while the old duffer worked his way along the creek bed takin' special care not to slip on the iced boulders. More than once I watched him raise his rifle an' study the trees through the scope. An' then

he'd lower the rifle and try to work in closer.

He was still a good hundred an' forty yards away when he found the spot he wanted. I watched him brush the snow away from the base of an oak tree an' then drop his hat on the ground an' set on it. In the wind, his silver hair was wispy—almost like the snow on the hill behind him—an' his eyes were gray an' watery, an old man's eyes that had seen much.

I remember him openin' the bolt on the Springfield an' slippin' in a cartridge, an' I remember thinkin' right then how different this was from a lot of other people I'd seen who carried a loaded rifle where the footin' was bad.

But not the old duffer!

He loaded up only when he was ready—just one cartridge. An' then he raised the rifle an' steadied the back



THE OLD DUFFER poked his head up—real slow and cautious like—and discovered the owl had long since gone.

of his hand against the trunk of the oak.

There was an instant then when time was a frozen moment—an instant when Bubo reached out with a fist of scimitars and seized a crow from mid-air. And in that same instant, the old duffer pressed the trigger and there was a flurry of feathers—both black



HE PRESSED the trigger and there was a flurry of feathers that filled the air like a dandelion puff and floated down amongst the trees.

an' brown—that filled the air like a dandelion puff. They fell together, Bubo an' the crow, an' the only thing that marked their passage was a few tufts of down floatin' 'mongst the trees.

Yes, I remember it just like it was yesterday — the way the old duffer rolled the owl over with the toe of his boot, the way he extracted the empty cartridge case from the rifle an' stuck it in his pocket for reloadin', an' the way he filled his pipe an' headed across the hills for home trailin' a ribbon of blue smoke.

Just once he turned around. His face was a mixture of sadness an' satisfaction, an' when I hollered at him from the top of an old beechnut tree, he kinda grinned an' lifted his cap—just ever so slightly.

Oil and Water DO Mix

Ducks with oil-soaked feathers may be a thing of the past. Sun Oil Company has been testing a new product called "Polycomplex A-11" which is said to homogenize oil and water. Hopefully, this will be the answer to such accidents as the Torrey Canyon disaster where so many of our wildlife creatures died.

During a recent test, Polycomplex A-11, manufactured by Guardian Chemical, was sprayed on an oil slick in the Delaware River. The immediate result was a breakdown of the oil into minute droplets which mixed with the water. Some 20 to 30 days are supposedly required for the complete destruction of the oil and chemical by bacteria, light, and oxygen.

Book Review . . .

Outdoors USA

The United States Department of Agriculture has published its annual yearbook, "Outdoors USA." A Raynor, Pa., lad, 12-year-old John Sbarbara, III, is the first youngster in the yearbook's 118-year history to author an article. Most of the chapters are written by Department of Agriculture specialists. When John was 10, he kept a diary during a farm vacation in Oklahoma and based his article on this experience.

The book contains a wealth of information for sportsmen interested in conserving and improving outdoors America. Over 250 photographs illustrate the text. (Price, \$2.75, from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.)

Why a Spring Gobbler Season?

EARLY this past summer the Game Commission took unprecedented action in Pennsylvania by setting an experimental gobbler season for the spring of 1968. Most sportsmen praised this as another progressive step in Game Commission policy to keep pace with the growing demand for healthful outdoor recreation by fullest utilization of our renewable wildlife resources. But some uninformed hunters are vehemently opposed. They visualize seriously disrupted turkey reproduction by the overwhelming pressure of our one million hunters suddenly released to deplete the breeding toms, indiscriminately shoot hens and destroy nests. They simply cannot understand why the Game Commission would jeopardize the turkey population it worked so hard for so many years to build.

We can appreciate these hunters' hesitancy to embark on an entirely new concept of hunting, even though nearly all other turkey states in the United States are now enjoying spring seasons. A certain amount of skepticism is a good thing. In fact, our Game Commission has the reputation of being a rather conservative organization. It has never been quick to adopt untried concepts or techniques in its game management programs. Perhaps this is the secret to its solidarity. The lengthy deliberations preceding announcement of our 1968 spring season were certainly no exception.

By Gerald A. Wunz
PGC Game Biologist



All of the aspects contributing to the need and safe conduct of this hunt were thoroughly investigated. Could our turkey population withstand, possibly even benefit from, a spring season? Would a spring hunt provide high quality recreation for our hunters? How did other states operate their spring seasons and what were they learning?

Much Data Studied

Sixteen years of turkey research in Pennsylvania has yielded much information on the extent of our occupied turkey range, turkey densities on this range, their population trends from year to year, and the sex and age composition of the flocks. From this we found two-thirds of our vast 20,000 square mile turkey range is occupied by good sustaining turkey flocks. We learned Pennsylvania's turkey population has been on the increase throughout its primary northern and south-central range after a period of decrease in the late 1950s and early 1960s. The primary occupied range has also been expanding in northwest and northeast sections of the state.

Pennsylvania's minimum fall population of 60,000 turkeys and overwintering flock of 30,000 ranks among the largest in the nation. Following summers of extremely good reproduction, the fall population may exceed 80,000 birds. With the exception of some northern counties, we are harvesting turkeys rather close to their allowable limits over much of the state in a fall season when both hens and toms are legal game. However, the male portion of this population is underharvested.

Gobblers Are Expendable

The gobbler is the most expendable segment of our flock simply because turkeys are polygamous. Pennsylvania's spring turkey population is composed of approximately one-third males and two-thirds females, which means one tom is available for every two hens. Because each tom can ser-

vice a harem of hens, we are carrying two to three times the males needed. Consequently, many toms may never have the opportunity to mate and are merely "excess baggage," competing for food and range with the productive segment of the turkey population.

The insufficient harvest of these surplus gobblers in a fall season is due not only to wariness attained with maturity, but also to the turkey's social habits. At that time of year adult gobblers travel alone or associate with other old toms in small flocks. These loners seldom come to a hunter's call, and even a scattered flock of old males isn't much more responsive, probably because there are no close social ties among gobblers.

On the other hand, scattered flocks of adult hens and birds of the year readily respond to calling because their family bond remains close through the fall season. Were it not for this responsibility, the old hens could match gobblers for wariness. Thus in a fall season the turkey hunter is more apt to come home with a hen or a young turkey. Meanwhile, most old toms are taken accidentally as they are encountered by squirrel, rabbit and grouse hunters.

Greatest Hunting Thrill

Because gobblers defy adequate harvest in a fall season, most turkey states are also allowing spring hunting when these surplus males can be more successfully and selectively removed from the turkey population. The spring mating season is the only time of year when toms readily respond to calling.

After it was apparent that Pennsylvania's vast range and its large turkey population filled with excess gobblers could accommodate a spring season, the next step was to determine the recreation this hunt would provide. Because of its intangibility, recreation is difficult to measure. How do you calculate the thrill of a buck in your sights or compute the baying of a



THE GREATEST OBSTACLE against a spring season is that it seems unnatural to many of our hunters to hunt at this time of year.

beagle on a hot track? We had testimonials of others who had participated in spring hunts, but the best measure is through personal experience. For this reason, we journeyed to states already enjoying spring seasons. We returned enthusiastic supporters to the quality and aesthetics of this sport. Spring is a wonderful time of the year to be afield and the added chance of having a wary gobbler respond, in full fan, to your imitation of the hen's yelp is a never-to-be-forgotten experience. And we found the spring gobbler no pushover, even with his mind on other things.

Possibly the greatest obstacle against accepting a spring season is that it seems unnatural to many of our hunters to hunt at that time of the year. But this is simply because generations of Pennsylvania sportsmen have been completely oriented to autumn hunting. This attitude can change with time. Another opposing argument often heard is that nothing should be hunted during its reproductive period. Why then does nearly every state in the Union time its deer hunting season to correspond with the period of the fall rut? The real answer is that it's traditional to hunt deer in the fall

when bucks are in their prime. Fortunately, this is also biologically the best time to hunt deer as it reduces the overwintering herd, and if timed after the rut in heavily hunted states, such as Pennsylvania, there is no interference with reproduction.

Likewise, spring hunting was traditional in a few states in the Deep South because gobblers are also at their sporting best then, are as tasty eating as in the fall, and there has proved to be no harm to reproduction. Converts to spring hunting report it takes only one gobbling answer to your caller to change your concept of tradition.

Other States' Experience

Now that we also knew spring gobbler seasons could offer the epitome of hunting pleasure, the next step was to gain the benefit of experiences and findings of other State Game Departments. All sixteen states with spring seasons in the range of the eastern wild turkey responded to a questionnaire. These were Alabama, Arkansas, Florida, Georgia, Kentucky, Tennessee, Mississippi, Louisiana, Missouri, Oklahoma, Ohio, North Carolina, South Carolina, Virginia, West Vir-



STEVE SZOKE of Danville with his 20-lb. gobbler bagged near Hunter's Lake—his third since he started hunting.

ginia and Wisconsin. The excellent information they furnished provided additional insight into spring seasons.

One of the most surprising findings from the questionnaire and our own observations of spring hunts has been the low hunting pressure in states recently starting spring seasons. Those with fewer than ten years' experience have less than 3% of their total hunters taking part. The traditional spring hunting states with histories of forty or more years indicate 13% to 20% of their sportsmen participate. Generally, states with a spring population of over 20,000 turkeys have the most gobbler hunters. Thus, hunter participation is dependent upon the turkey population and the number of years gobbler seasons have been in effect.

In the sixteen states mentioned, the portion of the total winter turkey populations harvested in the spring seasons ranges from 0.1% to 15%. The greatest proportions bagged are from the veteran spring season states where hunters have become skillful. The five newcomers (North Carolina, Oklahoma, Ohio, West Virginia and Wisconsin), each with fewer than three years' experience, all registered harvests less than 1% of their total turkey populations. Assuming gobblers comprise one-third of the total turkey

populations in these states, less than 3% of the total available toms were harvested.

Success varied from one gobbler bagged for each 110 hunters to one per three hunters. The relationship between pressure and success is very clear. States with best success were those with good turkey populations on ample range under low pressure. Thus the greater the hunter pressure the lower the success. This would be a safety factor reducing chances of any possible overshooting in our spring season.

Spring season lengths vary from one week to six weeks, dependent primarily upon a state's turkey population and how long it has held spring hunts. Hunting periods tend to be shorter in tyro states. The traditional spring hunting states hold seasons before incubation to avoid the possibility of nest disturbance. Newcomers tend to time hunts later during early stages of incubation when hens are least available for chance killing. This division of opinion suggests timing of the season is not very critical.

Harmless to Turkey Populations

Most impressively, the sixteen Game Departments interviewed were unanimous in their findings that no significant nest desertion or illegal hen killing has been caused by spring hunting. Half of the states feel these hunts to remove excess adult toms have benefited their turkey populations. The remainder indicate there is no direct evidence of these benefits, but are confident spring seasons haven't harmed their turkey flocks. All Game Departments were enthusiastic about the added recreation spring hunts provide without drain on the breeding turkey population. A few states with insufficient turkey populations for fall gunning do permit spring hunting because of the safeguards afforded the breeding stock.

The foregoing experiences of states with gobbler seasons indicate a

spring hunt provides the utmost in quality turkey hunting recreation with no harm to the population. Also significant is the fact that not one Game Department that has started spring seasons has stopped them, nor do they indicate any desire to do so. With turkey populations continuing to increase greatly in most of these states, their game administrators and sportsmen in general are sold on spring seasons.

Pennsylvania's conditions are sufficiently similar to many of these states to leave little doubt that spring hunting will also be successful here. The fears that Pennsylvania's hunters will cause unbearable pressure, excessive turkey kill and disrupted reproduction seem highly unlikely in view of the results in all other states with spring seasons. Our large turkey population and vast range are certainly adequate to accommodate a spring hunt. For these reasons, the Game Commission set an experimental statewide season for the spring of 1968.

Safeguards

To control this season and protect the turkey population, certain regulations are necessary. First is the time of the hunt. The division of opinion between Game Departments interviewed on whether to conduct spring seasons before or after the start of incubation is apparently academic, because none report significant hen killing or nest disturbance. The old traditional spring hunting states, where hunters would probably not shoot hens even with the opportunity, prefer an early season. Newer states, realizing their beginning spring hunters might not have learned to be so discriminating, have timed seasons during incubation when the nesting hens are largely unavailable for accidental killing.

Pennsylvania's initial spring season, May 6 through May 11, will also be given this safeguard by timing it with our peak incubation. An additional

safety factor limiting hunting to the early morning calling hours reduces the chances of a wandering hunter accidentally flushing a hen from her nest. Hunting will cease by 10:00 a.m. and all hunters should be out of the woods by 11:00 a.m.

Since this hunt is intended to provide high quality recreation, some controls over hunting equipment and methods are also needed to maintain sporting aspects. To encourage the use of the turkey call, only shotguns and longbows will be allowed. Prohibition of the rifle, it is believed, will reduce chances of accidental hen killing. Dogs, electronic callers, and organized drives are forbidden. The annual limit of one turkey per license year prohibits a hunter who got his turkey last fall from participating in this spring's hunt.

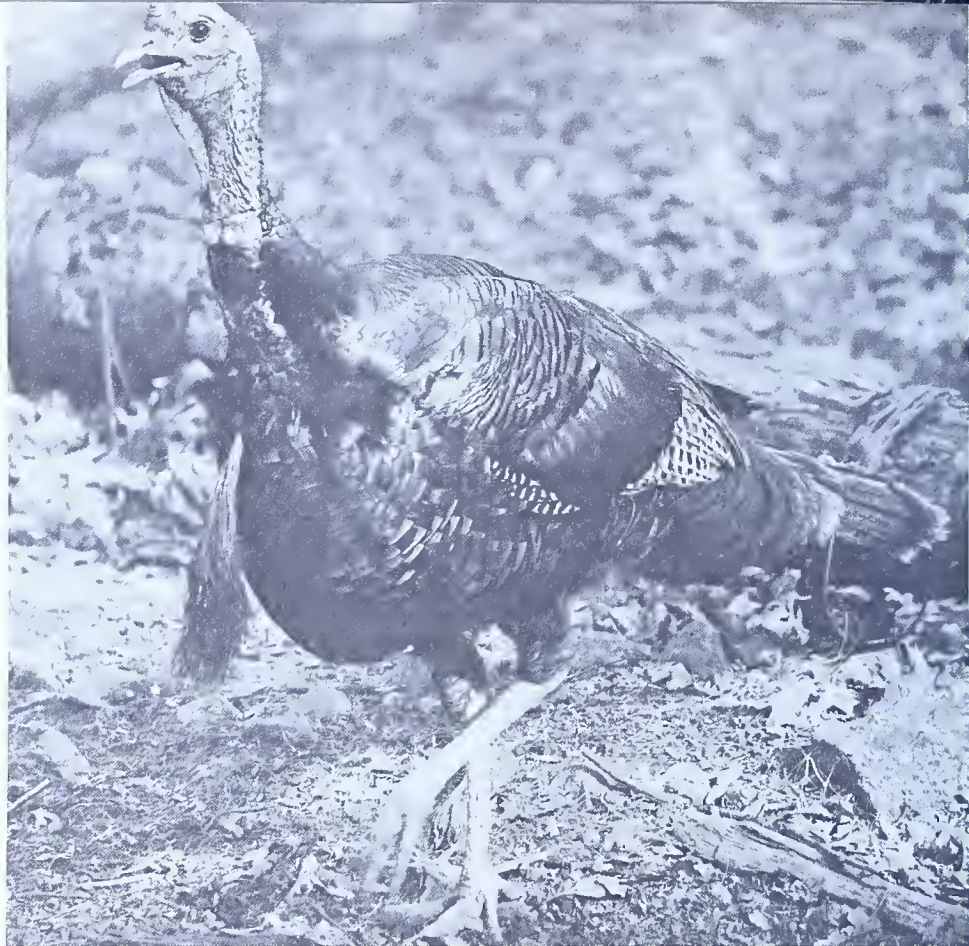
What We Can Expect

The subject of spring seasons has been so thoroughly investigated that we can predict the outcome of Pennsylvania's first hunt with considerable probability. When spread over some 20,000 square miles of range during the six-day season, we do not anticipate that hunting pressure will be excessive. A Monday opening should also reduce chances of a first-day rush. Hunters

A TURKEY makes a good load, but one which any hunter would gladly bear on the long hike home.

PGC Photo by R. D. Parlamen





THE ULTIMATE TARGET for thousands of Keystone gunners.

are expected to decrease somewhat after the first year when the difficulty of this kind of hunt becomes apparent. But interest may increase gradually from year to year as hunters become more skilled in spring hunting.

It is doubtful if the harvest in this first season will make an appreciable dent in our present calculated statewide population of 7500 adult gobblers. Even if it were possible to remove nearly all of these gobblers, reproduction would not be greatly affected because the season is timed after these males have served their mating function. Furthermore, the spring gobbler kill has proved self-controlling under heavy pressure. The more hunters, the more difficult it becomes to lure a gobbler to call.

We can expect a small number of hens to get killed even though the vast majority will be nesting and unresponsive to a call. Although those few

hens that are still consorting with gobblers may be unsuccessful nesters which are not contributing to turkey reproduction, it behooves our hunters to avoid any possibility of hen killing if they wish this sport continued. We have taken all precautions through the proper timing of this season to reduce intentional hen shooting by the callous hunter so inclined. If hunting is done properly by calling, which is the most effective way of bagging a spring gobbler, chances of accidentally shooting a hen are nil. Ultimately, of course, the continuation of spring gobbler seasons depends on how well hunters abide by the "rules of the game."

There is one thing we can guarantee with absolute certainty if you adhere to the rules of the spring hunt. That first strutting tom you call within good range will be the highlight of your entire hunting career. Even if you miss!

Just Give Me a Broom!

By Margery Venoy Wrigley

LISTENING to seasoned hunters giving advice on how to sharpen one's stalking ability, target eye, and hunting instincts, gave me, over the years, the impression that to hunt and bag any size game required outstanding skill in stalking, luring and outwitting wild game. I was led to believe that it took stamina to cover the rough terrain of the great outdoors, and that one must be equipped with specially designed guns and other gadgets to be successful. Then we bought a home in the middle of the Amish farmlands of Lancaster County and there I had my first encounter with Pennsylvania wild game . . . and came face to face with the truth at the same time.

Let me state it bluntly: One does not need all the skills aforementioned. Neither does one need specially equipped guns. If I had been hungrier or less chicken-hearted, I could often have bagged the daily limit of ring-necks with my trusty broom!

Armed with this unlethal weapon I had to shoo the pheasant cocks from the back doorstep. My daily walk was always interrupted by one or more flying up unexpectedly at my feet, making its Halloween noisemaker sound that frightened both me and my dog. They dug up my seeds, and would not fly out of the garden until I charged them, brandishing my faithful broom. Who needs a special lure, guns or telescopic sights to bag anything so tame? I'd find more trouble trying to catch biddies in a hen house!

As for rabbits . . . they ate my tulips and gnawed off the petunia blossoms; they sat in the shrubbery and didn't move even though I threatened them with the broom. I captured two, sim-

ply by dropping a cardboard box over their heads as they greedily nibbled the first tender red beet shoots, and transported them from the garden.

Then I met the groundhogs. They ate the clover from my lawn and burrowed in the fencerows. One day while I sat reading in the shadow of the maple tree, a groundhog made so bold as to come to my feet, hissing menacingly. I didn't like his attitude at all and I didn't have my broom at hand, so for a moment I was at a loss to know what to do. Then I noticed my hoe leaning against the tree trunk within reach. I grabbed it and poked at the animal with the handle. He immediately grabbed the wood between his teeth and hung on. I am not one to argue. I gave him the hoe and ran to the comparative safety of the porch.

Last summer we bought a home in Clearfield County on the beautiful Susquehanna River, and here I had my first encounter with big game—a deer. Fortunately, I was on the tip-top of the stepladder when this beastie attacked. It must have been a buck (though he had no horns), for surely no doe could attain such hugeness. He came fast. Flowing. His movement sheer poetry.

Statue of Liberty

I stood on the ladder where I'd been painting the outside window frames, my paint brush held in mid-air, awed by his beauty and grace. I saw in that moment why hunters suffer buck fever with such a creature in their sights. Suddenly my awe turned to fear—he was charging *me!* But a few yards from the ladder he stopped, snorted, and stepped cautiously up to the ladder. Scared too stiff to move,



I made like the Statue of Liberty, my paint brush held skyward, paint dribbling down my arm and dropping off of my elbow into the grass beneath. The deer sniffed the paint, gave the ladder a halfhearted butt and departed.

Unnerved by this encounter, I grounded—and instantly stepped on a great, yellow, hobnail-patterned toad. He eyed me accusingly and I spent ten minutes trying to convince him that I had not stepped on him intentionally.

There are many other instances where wildlife made my life uncomfortable. Like the day I was carrying blackberry canes to the riverbank to burn them. I tripped over something and fell headfirst into the great pile of brambles I had been carrying. As I ruefully inspected the scratches on my arms my eye caught sight of the object over which I had fallen: a beaver! I took one look at those tree-chopping teeth, the boat oar tail and said, "Beg your pardon," and fled.

I'll not even mention how I fared in the bout with the ring-necked pheasant that flogged me, and I'll try to ignore the owl that hoots dark threats at me from the pine tree and the bats that buzz me when I walk at dusk. I know that one day I will have to take the broom to the squirrels that chatter at me from the black walnut tree, and perhaps I'll encounter the skunk that leaves threatening scents on the breeze. I know too that eventually I'll meet the one-time inhabitants of the old abandoned snake skins that sway downward from the rafters of the tool house. But I'm positive I can meet them without a gun and special hunting know how. You see, I have my broom.

Oh, I'm pretty sure that I saw a bobcat creeping along the top of the hill yesterday, but it looked so much like our Siamese cat that I cannot be positive. And I hate to attack until I'm sure of my game. That's why I'm having my broom equipped with a telescopic lens. . . .

Book Review . . .

Shotguns by Keith

Elmer Keith has spent a lifetime burning gunpowder, and has written a small library of books detailing his experiences. *Shotguns by Keith* is one of these. First published in 1950, its third edition has just been released. Many illustrations have been added, and new material brings the book up to the minute, but of perhaps even more value is the original copy. It gives much smoothbore history and data on all facets of shotgunning, but what makes it so readable are the acute personal observations interwoven by the man who has to be the country's most controversial gun writer. Ol' Elmer can make even pattern percentages interesting reading. (Stackpole, Harrisburg, Pa., 1967. 340 pp., \$7.95.)

Films for Sportsmen

A new brochure listing outdoor movies is available for sportsmen wishing to show films at meetings. The booklet lists dozens of films, many of which are free, and gives their running time and the distribution address. The free brochure may be ordered from the National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878.

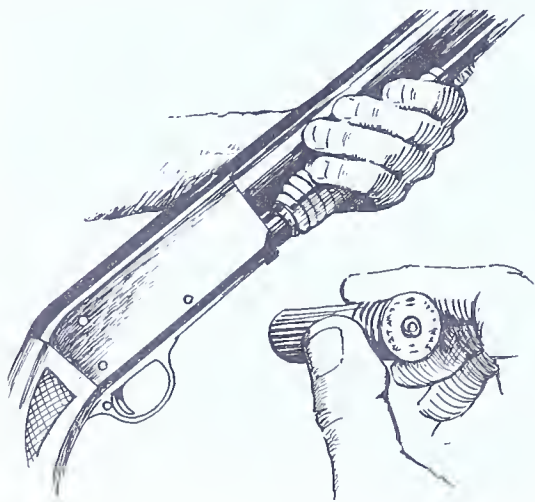
An Unexciting Hunter

By Paul Try

MOST HUNTERS seem to have amazing—almost unbelievable—experiences. The other day I read about a boy who went rabbit hunting with a 22 rifle. He was treed by a wounded panther which he somehow managed to kill. A friend of mine, out after bear, was knocked cold by a flying duck. Everybody and his brother comes up with some thrilling, spine-chilling moment worth telling about. Everybody but me. From my hunting forays I usually return empty-handed. If I go fishing I always manage to fall in the water.

All my life I have wished I could come up with some wonderful tale of my hunting prowess. How exciting it would be to describe my moment of greatness as a nimrod, or tell about my unerring aim. But it seems I am doomed to failure. Why in the world, I ask myself, can't something wonderful happen to me—like the experience that happened to a friend on a nearby farm one morning last November?

SOME GUYS DO interesting things—like trying to stuff 12-gauge shells into 16-gauge shotguns. . . .



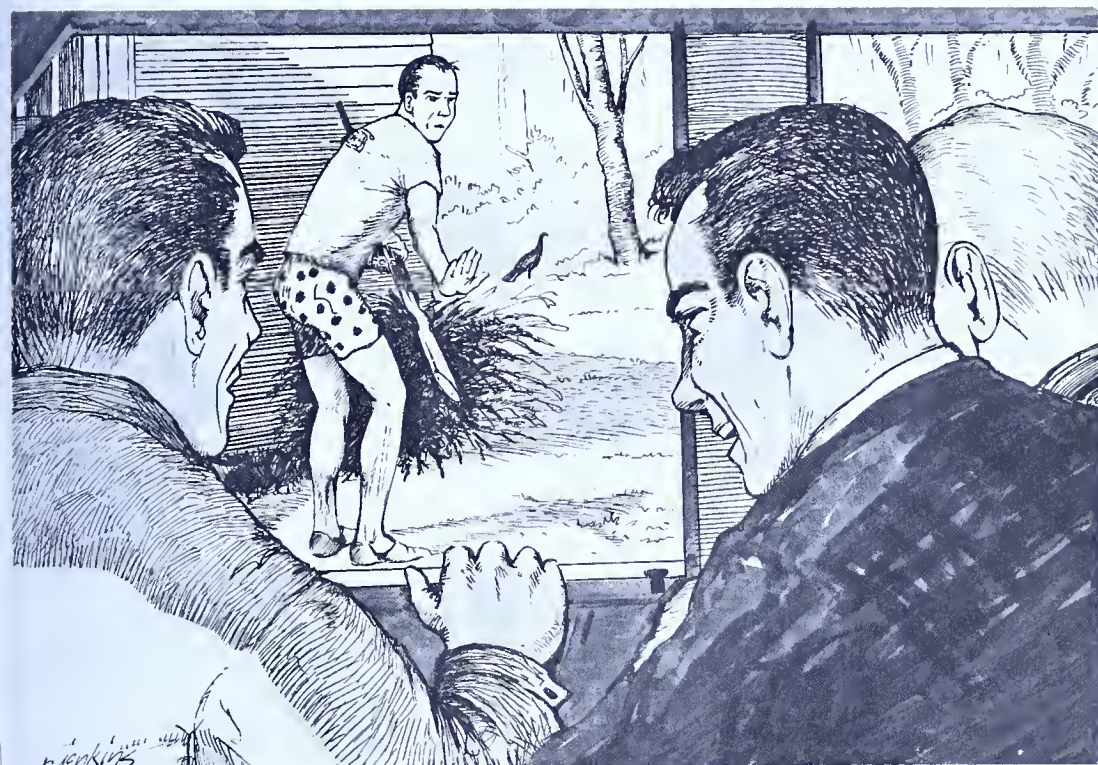
It was one of those rare moments one never forgets. People won't let you! My friend wasn't even hunting when it began. He was at home minding his own business. He had just completed his bath preparatory to taking a trip. One moment everything was moving along at a normal, unexciting pace. Then *kaboom!* Like the explosion of a firecracker under his feet, everything was pandemonium.

By chance he looked out the window and saw a big wild turkey swoop down to a perfect landing in his backyard. Hunting season was in full swing, and everything else would have been fine, too, if his wife hadn't chosen that moment to burst into the bathroom excitedly announcing the arrival of the turkey.

Wanted Turkey

Now, my friend had always wanted to shoot a turkey and this looked like the best chance he'd ever get. In the room outside the bath stood a hunting rifle and two shotguns, one twelve gauge, one sixteen. Hurriedly, he slipped his bare feet into a pair of lounging slippers, pulled on his sweat shirt with hunting license, grabbed the sixteen-gauge and rushed downstairs. Meanwhile, in an excited voice he felt sure the gobbler would hear, his good wife kept urging him to hurry, telling him that the turkey was still strutting around outside.

Sneaking out a side door so the turkey wouldn't spot his approach, he headed for the corner of the house. Mr. Turkey, he knew, wasn't going to wait forever. Dimly, he was aware that a car had stopped on the road behind him. He heard someone laugh, but didn't pay much attention. At that moment he was having troubles



WHEN A FELLA HAS GAME on his mind—like a turkey in the backyard—he can't be expected to remember details.

of his own. The darned shells didn't want to slip into the breech of his gun. And the turkey was now in plain sight, just around the corner from where he stood. The bird was standing motionless, looking away.

Keeping an eye on the turkey, my friend fumbled desperately to load his gun. He couldn't do it. Almost in a frenzy by now, he looked down. His heart sank. He later claimed he wasn't excited. Yet all the while he had been trying to shove a twelve-gauge shell into his sixteen-gauge gun. That should have been discouragement enough, but his troubles were just beginning. The people in the stopped car were now laughing loudly.

"Isn't he a sight," someone said.

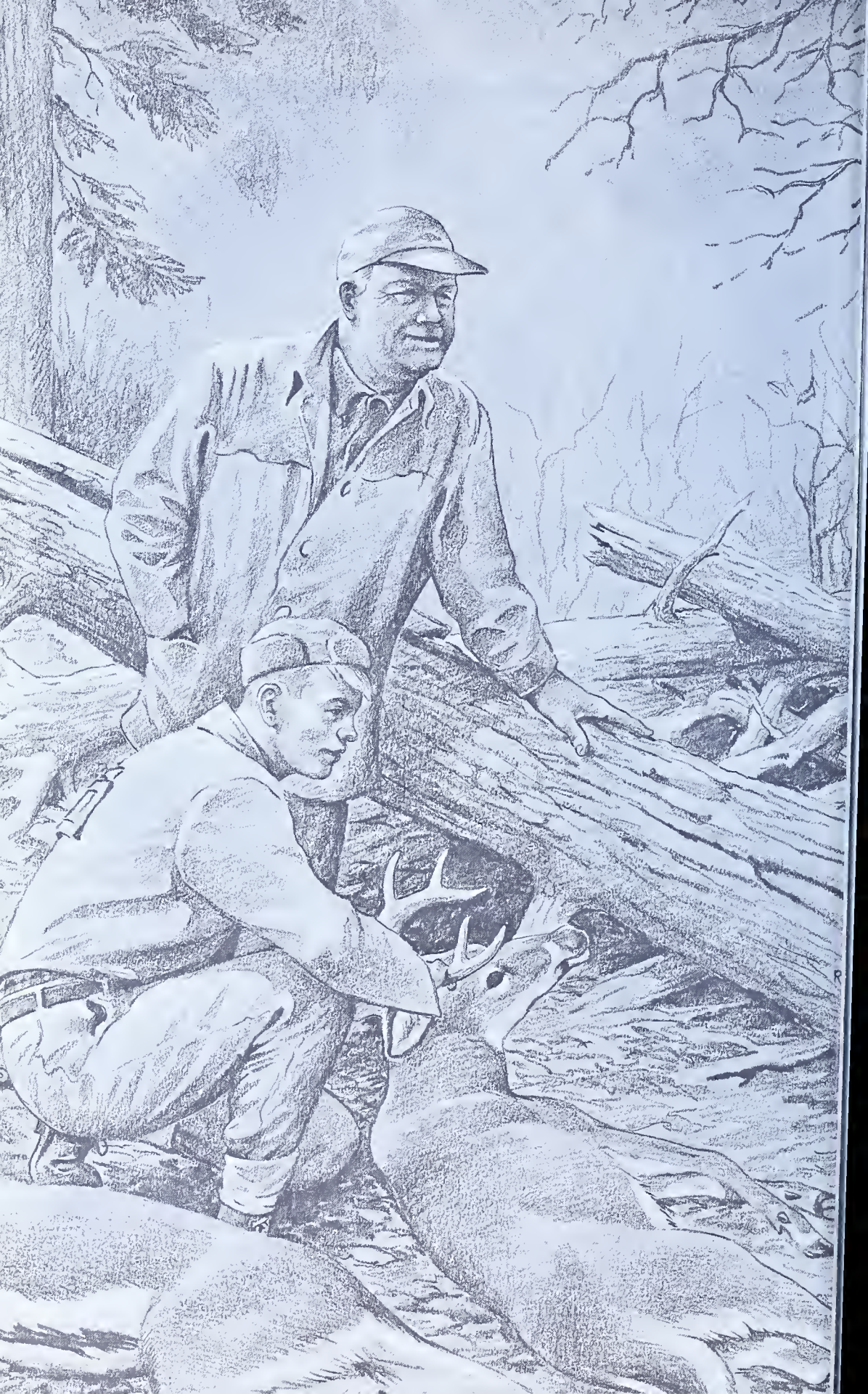
Slowly he turned his head, looking daggers at them, and motioned for silence. They responded with unbridled laughter. For a fleeting moment he was tempted to give them a piece of his mind. Then he happened to glance down beyond the stubborn

shells, which for some unexplainable reason he was still trying to force into the open breech—and forgot everything else, including the turkey gobbler in the yard.

My friend dropped shells and gun, made a mad rush for the nearest door, flung himself inside and slammed it shut behind him. Somehow in his zeal to shoot the turkey he had inadvertently left the bathroom too soon—a great deal too soon. He understood now why the people in the car had been laughing. All my friend had on while stalking the turkey was a pair of slippers, his sweat shirt—and a pair of polka-dot shorts!

He still maintains he wasn't excited. But the turkey got away. At that, my friend considers his short turkey hunt a huge success. He says he's been getting the bird ever since.

All of which proves that truth is often more exciting than fiction. Why can't something like that ever happen to me?



A Deputy's Day

By Richard E. Walton

THE ringing telephone brought me out of a sound sleep. I paused on the edge of the bed for a moment to shake off the drowsiness and glanced at the clock as I lifted the receiver. It was 7:10 a.m.

The voice on the other end of the line identified the caller as an employee of the State Highways Department. He reported a highway-killed deer and gave the location of the carcass. "Can you pick it up?" he asked, as I jotted down the location. "Soon as I'm dressed I'll be on my way," I replied.

I picked up the carcass, disposed of it and was back home at 8:30. Bloodstains meant another change of trousers.

As I sat waiting for the coffee to finish its perking, a familiar question popped up in my mind. It's the same question that I've pondered on previous occasions, but never could give it one solid answer. Probably because there are many answers.

What draws and holds a man to a volunteer job that many times requires longer hours than his regular job and can require his services at any time of the day or night? The volunteer job I refer to is that of the Deputy Game Protectors of Pennsylvania.

Before I mention some typical events in the lives of these Game Commission personnel, let me list some of the regular jobs held by Deputies in District 5-40-2 in Luzerne County, which includes the cities of Wilkes-Barre, Pittston and Nanticoke. Deputies I know in these areas include a carpenter, a registered surveyor, two mill mechanics, a bulldozer operator, a milkman, a bank employee and a newspaper reporter. To list the jobs held by Deputies across the state would take up a couple of pages in GAME NEWS.

At his regular paying job, a Deputy is just another guy trying to earn a living. There is nothing special about him. He looks like any average worker. But during the fall and winter, when Game Commission activities are at their peak, after the same average Joe completes his work shift, he doesn't spend the evening at home watching television or catching an early nap, or maybe hitting a night spot.

Forgets Pleasures

The Deputy forgets the pleasures of life. Instead, he's often sitting out on a lonely mountain road until the wee hours of the morning — sitting and waiting for the crack of a rifle in the hands of a jacklighter.

Or on his day off, instead of hunting with his neighbor, he spends eight or ten hours on patrol, answering questions of hunters, checking for violations of the Game Law, or maybe stocking pheasants or turkeys. Even when he does hope to spend an evening at home, a telephone call often gives the location of a highway-killed deer. He thanks the caller and sets out to remove the carcass from the highway.

Or take a warm Saturday last summer. A Deputy was relaxing in the shade in his backyard when the telephone rang. It was the District Game Protector under whose supervision the Deputy worked.

District Game Protector: "What's doing?"

Deputy: "Nothing much. What's up?"

District Game Protector: "I just received a call about a deer running around in the city." He gives the location. "Care to give me a hand?"

Deputy: "Sure. I'll meet you in ten minutes." It will take a lot longer than

ten minutes to return to his favorite spot in the shade. But this doesn't discourage him in the slightest.

But take the same Deputy loafing in the shade and have his wife ask him to run an errand. He just may put it off until the last minute. Maybe until the next day!

In what has been written so far, I doubt very much if you can come up with a solid answer to my question. And what is written is typical of Deputies across the state.



THE RINGING TELEPHONE woke me. I paused on the edge of the bed for a moment to shake off the drowsiness.

Of course, there is another side to the story. This is where the wives of Deputies enter into the picture.

I have been a Deputy for four years. In those years, my wife Nancy has used this position as a wedge for getting necessary work done around the home. Her ultimatum may be worded something like this: "Either you get the painting done by hunting season or you cut down on Deputy work until it's finished." But when hunting season rolls around and the painting isn't quite finished, it's usually put off until the following spring.

My wife and the wives of some of my fellow officers say they believe we are more concerned about working for the Game Commission than we

are about our regular paying job. There may be some truth to that remark. When several Deputies get together in a gab session, the subject is usually about experiences with the Game Commission.

Night patrol is the favorite subject of a Deputy's wife. Why? Because this is when Mr. Deputy comes home from his job, eats supper, skims the paper and gets ready to leave for some lonely woodland road, not to return until the wee hours of the morning. What do the wives have to say about this? The old standard goes something like this:

"Are you going to leave me home alone all night again?" To which the Deputy may reply: "Gee, honey, you can't stop Game Law violations by sitting home all night. I'll stay home tomorrow night."

Believe me, there are many long hours spent on night patrol by Deputy Game Protectors.

Long Day

During hunting season, the Deputy may be awake at 6 a.m., eat a quick breakfast and leave for the day. He returns for a warmed-over supper and almost before the door closes behind him, he is back out again on jacklight patrol. It is not unusual to put in fifteen hours on a Saturday. At my regular job, that is equivalent to two full days of work.

Another note of interest is the fact that many Deputies spend more time afield than the average hunter, yet the Deputy comes home with less game. Here are a few actual cases which tie in with this subject:

On the first day of the antlerless deer season of 1965, Deputy Al Antosh and I spent several hours hunting on State Game Lands No. 91 in Luzerne County, but failed to see any deer. Later in the day, a father-son hunting team approached us and asked if we knew a good spot for deer. It was the boy's first year of deer hunting and they'd had no luck by noon. We sug-

gested an area on Game Lands No. 91 and they said they would hunt there on the following day.

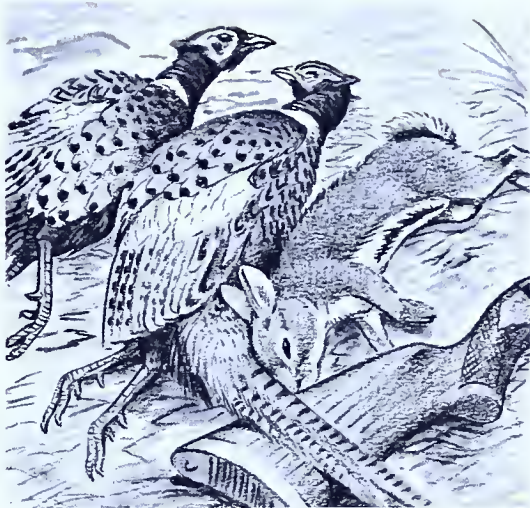
We were patrolling that particular area on the next day and happened to meet the same father and son. They were standing over two deer. They could not thank us enough for the advice we gave on the previous day. We did not hunt that area, nor did we bag our deer during that season.

During the 1966 small game season, several fellow employees told me they were planning a Saturday of hunting and asked if I knew where they might flush some ringnecks. I told them about a farm only eight miles from our office. They said they would hunt there, if they could get permission from the landowner.

That Saturday, while conducting a road check not far from the farm, I was approached by my friends. They displayed several ringnecks and rabbits which they bagged on the farm. They stopped purposely to thank me for the information I had given them. I did not hunt there on that particular Saturday. In fact, I did not hunt long enough to bag one ringneck last hunting season.

When I repeat these stories to my wife, she just laughs and says I tell everybody else where to hunt and they bag game, but when it comes to hunting myself, I never take my own advice.

So you see, there is not too much glamour about the job of a Deputy Game Protector. There is nothing glamorous about picking up a bloody road-killed deer, going to work the next morning after a night of jack-light patrol, or occasional arguments



I TOLD SOME FRIENDS about a farm where they might get some birds, and they did. But I never got a pheasant all season.

from certain people, or even answering complaints.

So I still can't figure out what the attraction is that just won't let loose. But maybe it's the fellow officers who would give you the shirt off their back, or the Division Office personnel, who always greet you with a warm welcome and stand ready to assist with any problem. And you do get the chance for an active part in the conservation of one of Mother Nature's greatest offspring—wildlife.

Wildlife has enough problems to meet in just staying alive. Today, it comes face-to-face with water pollution, air pollution and decreasing habitat. No better are the Game Law violators who kill for meat, for pay or for fun. And when a Deputy can help put a damper on any one of these problems, I believe he feels he has received his reward.

Chipmunk Awakens During Hibernation

A chipmunk does not go into complete hibernation. After disappearing in October, it awakens from a torpid condition at intervals to feed from caches in its burrow and may even sally forth in midwinter during warm spells.



462-LB. BEAR, above, taken by Sam Jones of Cresco, second from left, in Monroe County. He hunted with Wayne Miller, Charles Harrison and Paul Jones. DGP John Spencer checked kill. Below, Lee Rishel, Jr., Renovo, with his 425-lb. bruin.



BEAUTIFUL CINNAMON BEAR below, a Triple Trophy winner. His father,

Keyst

FOR MOST hunters a black bear is rare, it is enough out of the ordinary. Each year hundreds of Keystone hunters come home convinced they are close to a kill. Here are a few of this year's success

410-LB. BEAR taken in Lackawanna County, N. J.; Frank Grekoski, Sayre, Pa.; and Anthony Wilizewski,





and Runkle of Dover helped make him
and buck.

Bruins

sylvania's top trophy. Though not
e a special niche in their dreams.
their sights on a bruin and come
kett and Boone—and they're right.
S.

Keith Hinman, S. A. Kish and Joe Osman

rs, from left: John Christian, South
orge Bontz, Gouldsboro, the success-
l. J.



FLOYD RINEHIMER, Wapwallopen, left,
with his 425-lb. trophy; DGP Robert Nolf,
and Floyd's father. Below, well-known
sportsman L. F. "Shorty" Manning has
his first bear, taken in Cameron County,
weighed by Gary Wakefield. It went 154
lbs.





FIELD NOTES



Anyone Can Make a Mistake

CAMERON COUNTY — During bear season, Fish Warden Stan Hastings checked a carload of hunters on the Rich Valley Road. Stan asked them if they had any luck. One hunter eagerly proceeded to tell Stan that though he hadn't seen a bear he'd found lots of bear sign among a large formation of rocks nearby. He took a paper bag from his coat pocket, explaining that he knew his buddies would never believe him if he told them about the fresh bear sign without proof, so he had brought back some proof. The excited hunter



opened the bag to show the proof. Hastings looked in the bag and smiled, then said, "Gosh, I'm afraid you made a mistake. These aren't bear signs, but porcupine." No need to say, a roar of laughter went up from the men in the car, and the last I heard a certain hunter was still digging a deep hole to crawl into.— District Game Protector N. L. Erickson, Emporium.

For Looking Only

JEFFERSON COUNTY — I have had several reports of one bull and two cow elk being observed in the Rattlesnake Run area of Jefferson County.—District Game Protector G. W. Miller, Sigel.

One to Go

BRADFORD COUNTY — Bradford County had a very good bear kill this year. One bruin that tipped the scales at 400 lbs. field-dressed was shot by Carolyn Shedden, a 14-year-old junior high school student from Troy. She was hunting with her father in a party that is noted for successful bear hunts. I received a report that Carolyn also shot an 8-point buck the first day of the antlered season. Maybe Santa will bring her a turkey call for Christmas so she can get ready for the spring gobbler season and a possible Triple Trophy. — District Game Protector R. W. Donahoe, Troy.

Next Time, Follow Instructions

COLUMBIA COUNTY—Two young hunters recently asked me, "Would you show us how to dress a deer?" I said I would, but first they should get the deer. "We have one in the trunk of our car," they said. We all drove out of town to an isolated area where they began to dress the deer. The first cut of the knife, as you can guess, went right into the paunch. But after many comments about the odor, the job was finally finished. — District Game Protector H. F. Harter, Bloomsburg.

Answer: Peanut Butter

ERIE COUNTY — Deputy Game Protector Bernard Carlson has been doing an excellent job trapping raccoon in Erie. To date this year he has caught 185. Bernie has been trapping coons in the city for a number of years in answer to complaints by citizens. In past years, the average per year has been between 90 and 100 caught. This year the number has nearly doubled. Bernie keeps seven traps busy most of the time. He has tried everything for bait, but finds that peanut butter works the best for raccoon. He has caught only four opossums and one woodchuck. — District Game Protector R. L. Sutherland, Wesleyville.



Don't Shoot!

CLARION COUNTY — Every deer season brings some unusual occurrences, and this year was no exception. A group of men had been hunting several of the small wooded areas in the vicinity, and were doing well to say the least, having shot four bucks for the day's efforts. One drive however put out not only deer, but two big black hogs which ran within twenty feet of a watcher. I can just imagine the mixed emotions which plagued the young fellow as he watched about 500 pounds of pork gallop by. — District Game Protector D. W. Brown, Knox.

Necessity . . .

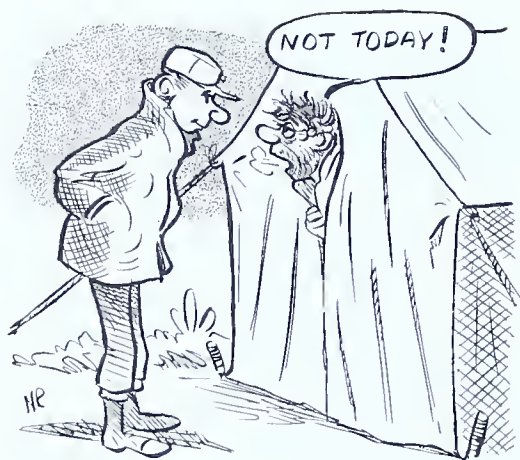
BEDFORD COUNTY — When checking deer to see if they are tagged, we often hear the excuse that either the hunter forgot or lost his pencil. My hat is off to 16-year-old David Claycomb, R. D., New Enterprise. He killed his first deer this year and found he had no pencil so he whittled a stick to a point, dipped it in deer blood and wrote out the necessary information. I can't wait to meet the next guy who tells me he has no pencil. — District Game Protector S. E. Lockerman, Loysburg.

Rules? What Rules?

DAUPHIN COUNTY — Game Protectors run into many different types of violators, and every now and then a real character turns up. Last month an individual was apprehended in the Dauphin area who could be classified as a Game Law violator of the first degree. Using a semi-automatic 22 rifle, he shot three ducks out of season, firing from a motor boat in a safety zone! To top things off, the offender had no hunting license or duck stamp. — District Game Protector S. L. Opet, Millersburg.

What Makes 'Em Wait?

BUTLER COUNTY — The following is an example of how determined archers are, and just how the County Treasurer and his staff cooperate with sportsmen. At 12:15 a.m. on September 30, the first day of archery season, Eugene Hoffman, the County Treasurer, sold his last archery license in his own home. Also, a member of his staff, Mrs. Vivian Ward, sold over \$100 worth of archery licenses in her home on the weekend prior to archery season. It is my feeling that people like this deserve many thanks from the hunters who put off until the last minute. — District Game Protector J. D. Swigart, Butler.



Real Eager

CLINTON COUNTY — While on patrol early on Thanksgiving morning, my Deputy, Pete Rathmel, had a bear cross the road in front of his car. Not seeing any hunters nearby, he drove up the Trout Run Road until he came to a tent, whose occupants were still sleeping. Pete hailed the tent, explained who he was, and asked if they were hunting bear. When the reply was in the affirmative, he told them about the bear and suggested they get some clothes on and he would put them on the trail. "Do we have to go after him?" was the next question. "Well, no," said Pete, "but I thought you'd like to have the information." "Well," said the bearded one, "if I don't have to, then I ain't chasing any blankety-blank bear on Thanksgiving Day." Pete walked away muttering to himself.—District Game Protector C. F. Keiper, Renovo.

Dirty Trick

BLAIR COUNTY—A local resident acquired two "moose crossing" signs and erected them in the Tipton Hollow area above the dam. Then he used the feet of a moose that had been killed in Canada, and made a set of tracks in the snow. Several hunters seeing this are now convinced we have a herd of moose in the area.—District Game Protector P. R. Miller, Bellwood.

Another Point of View

MERCER COUNTY — While on night patrol near Sandy Lake, Deputy Lanigan and I heard several shots. Investigating, we found a hunter from Ohio with three coons. We talked with him for some time, and finally the price of Pennsylvania's nonresident license came up. I was a little surprised when he stated he would hunt over here if the license cost \$50—and that in fact he wished it did, as then only the real hunters would be out in the woods.—District Game Protector J. A. Badger, Mercer.

What's in a "W"?

LUZERNE COUNTY—On November 28, while checking hunting camps in full dress uniform, I had my ego deflated very quickly. Deputy Muendlein accompanied me and one of the sportsmen had a question. He started to ask me the question when his buddy said, "Ask the head warden," and pointed at Deputy Muendlein. "He has a W on his cap." Note: the W stands for White Haven Aces baseball team, of which Deputy Muendlein is a member.—District Game Protector R. W. Nolf, Conyngham.

. . . Kingdom for a Horse

LYCOMING COUNTY — On the second day of bear season, Burnell Rhodes of Hanover shot a large male bear at Sunny Hollow near Waterville, Lycoming County. Mr. Rhodes was hunting by himself and had no help to get the bear out of the woods. On Wednesday he spent eight hours skinning the bear and getting the head and hide to camp. On Thursday he cut up the bear carcass and spent another eight hours getting that to camp. The parts of the bear were weighed at camp and tipped the scales at 505 lbs. — District Game Protector M. Evancho, Jersey Shore.



Just Too Much

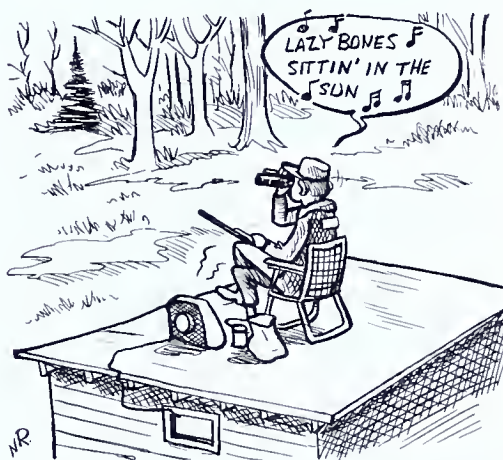
FRANKLIN COUNTY — Maynard Burkett, a friend from Chambersburg, went up to McKean County deer hunting. On the first morning he saw a buck go into a small thicket. As he waited for it to come out, he heard a ruckus coming down the hill behind him. Looking around, he was startled to see a doe coming down the hill with a bear running right behind it. Both ran into the same thicket as the buck. In a second, the buck and doe came racing out the other side, with the bear chasing both of them. To top it all off, during the excitement, Maynard forgot to shoot at the buck!—District Game Protector J. D. Mort, Chambersburg.

Not Quite the Same Thing

LEBANON COUNTY — This year, due to a heavy stopover of ducks and geese in Lebanon County, there was a shortage of duck stamps at our local post offices. Late in the season a hunter stopped at our house and my wife attempted to find, over the phone, a post office that still had duck stamps. On the third call she asked the girl who answered if they had any duck stamps left. After a brief check with her superiors, the girl came back to the phone and replied that they had no duck stamps but they had a good supply of Christmas stamps.—District Game Protector E. T. Clark, Lebanon.

"Hunters" We Can Do Without

BUTLER-LAWRENCE COUNTIES—The first day of the antlered deer season Robert Steiner, a cooperator on Farm-Game Project 105 near Slippery Rock, shot a nice 6-point buck on his own property. After dragging the deer home, he skinned it and hung the two halves outside the house by the wagon shed. During the night someone stole half of his deer. Last year, in the same general area, Mr. Molle shot a nice 8-point buck and hung it up on the apple tree alongside the house. Mr. Molle took his family into town to get groceries and upon returning discovered someone had stolen his deer. The guilty party or parties apparently think they have an easy way of getting their deer—but some day their luck is going to run out!—Land Manager W. E. Portzline, Slippery Rock.



Got It Made

CRAWFORD-ERIE COUNTIES—When Deputy Merle George and I were patrolling on the first day of deer season, we saw many hunters with various deer hunting methods, but one man was the most comfortable. He was sitting on his garage roof on a chair with a heater and lunch beside him, scanning the surrounding area for deer.—Land Manager J. C. Hyde, Townville.

Big One

CRAWFORD COUNTY—A lot of nice bucks were taken the first day of the season, the nicest so far in this area being a large perfect 8-point buck weighing in at 215 lbs., field-dressed.—District Game Protector A. D. Fichtner, Linesville.

Bobcats Bagged

CENTRE COUNTY—Two bobcats were bagged in my district so far this hunting season. One was taken near the mouth of Sterling Run and the other along Moore's Run. One cat weighed nearly 35 lbs., the second about 25 lbs. One lucky hunter was Mr. Walters from Johnstown. The other's name is not known, but he was hunting from the Moore's Run Camp at the time.—District Game Protector D. Sloan, Bellefonte.



Takes More Than That . . .

CLARION COUNTY—As strange as it seems, not all people like or are interested in hunting. While making a routine check of a party's hunting licenses I saw that one of the men had a replacement license. I asked him if he had lost the original and he said, "No." I then asked what happened to it, and he finally told me that his wife threw it in the fire, because she didn't want him to go hunting. — District Game Protector J. M. Lavery, Clarion.

Still Going Strong

PIKE COUNTY—On November 30, I picked up a hunter and gave him a ride to where his truck was parked. Some eight years ago I wrote a Field Note about this fellow hunting woodcock at age 77. Now 85, he is still chasing deer! This grand old man of the Shohola Creek area, Louis Ligi of Jessup, told me he got 10 woodcock this year. When we recalled the earlier hunting incident, he opened his wallet and pulled out the Field Note as it appeared in the **GAME NEWS**. He is as proud of the event as when he got three woodcock for three shots, eight years ago.—District Game Protector A. J. Kriefski, Hawley.

The Best Policy

VENANGO COUNTY—Late in the antlered deer season, a man called the Division Office and reported killing a doe. He was instructed to deliver the carcass to me and pay a \$25 penalty. The man returned to the deer, and as he picked up the head to place a rope on it, what a surprise—a 4-point antler on the side of the head buried in the snow! Sometimes honesty really does pay.—District Game Protector L. E. Yocum, Oil City.

Nonagenarian Nimrod

WYOMING COUNTY — On November 27 one of the oldest hunters in Pennsylvania killed a 4-point buck while hunting in Noxen Township, Wyoming County. He is Frank Turner of Noxen, and he has hunted from the "20 Limited Camp" for 45 years. Mr. Turner was 90 years old on June 17, 1967. He killed this buck with a 250-3000 rifle which he acquired 48 years ago. At that time, everybody called it a "popgun." He since has killed 40 deer with this rifle.—District Game Protector P. S. Sloan, Tunkhannock.



CONSERVATION NEWS



A HUNTER WITH a license and a varmint rifle can hunt crows all winter.

Hunting License Sales Rise

PENNSYLVANIA, which boasts of more paid hunting license holders than any other state in the nation, will probably continue to lead the country when final tabulations on license sales are made later this year.

Sales during the 1966-67 license year increased by more than 40,000 over the preceding year. The total sale for the year was 993,893, compared to 953,665 in 1965-66. Considering the number of farmers and others who are legally entitled to hunt on their own land without a license, it is evident that the state has well over a million hunters.

A Pennsylvania Game Commission report shows that 931,239 resident licenses were sold during the year ending August 31, 1967. During the previous year resident licenses sold totaled 899,301. Nonresident license sales rose from 54,364 during the prior year to 62,654 during the year just completed. And junior license sales jumped from 116,722 in 1965-66 to 124,410 in the past year.

"This increase in license sales is certainly gratifying," Game Commission Executive Director Glenn L. Bowers said in commenting on the figures.

"The increase of more than 8000 nonresidents is particularly encouraging and indicates that citizens of other states think highly of the opportunities that are available in our state. And we are also especially pleased with the growing number of youth who have developed an interest in hunting," Bowers added.

Because we get many inquiries about license sales by county, these are given on the following page.

Hunting Licenses Issued by County

COUNTIES	RESIDENT						NON-RESIDENT	
	1965			1966			1965	1966
	D.V.	JR.		D.V.	JR.			
Adams.....	7,081	(4)	(975)	7,630	(6)	(1,030)	721	873
Allegheny.....	66,055	(42)	(7,361)	66,693	(34)	(7,850)	169	192
Armstrong.....	11,963	(9)	(1,759)	12,480	(8)	(1,908)	273	281
Beaver.....	16,823	(21)	(2,080)	16,826	(17)	(2,133)	547	626
Bedford.....	9,420	(13)	(1,235)	9,288	(9)	(1,302)	1,209	1,329
Berks.....	24,217	(18)	(2,720)	24,881	(18)	(2,888)	81	127
Blair.....	17,789	(27)	(2,697)	17,999	(26)	(2,798)	373	440
Bradford.....	10,322	(19)	(1,632)	11,233	(20)	(1,757)	1,011	1,193
Bucks.....	18,836	(14)	(2,350)	20,653	(13)	(2,696)	1,166	1,326
Butler.....	15,947	(19)	(2,560)	16,726	(20)	(2,695)	269	284
Cambria.....	22,467	(27)	(3,582)	23,140	(26)	(3,726)	820	957
Cameron.....	2,069	(2)	(306)	2,117	(2)	(333)	306	455
Carbon.....	6,383	(14)	(705)	6,041	(14)	(688)	149	165
Centre.....	14,158	(6)	(1,988)	14,439	(5)	(1,963)	425	530
Chester.....	16,064	(9)	(1,623)	16,857	(7)	(2,114)	1,174	1,399
Clarion.....	9,065	(5)	(1,365)	9,221	(4)	(1,402)	1,638	1,290
Clearfield.....	14,714	(33)	(2,201)	14,762	(19)	(2,285)	1,155	1,529
Clinton.....	7,510	(14)	(971)	8,746	(12)	(1,180)	265	389
Columbia.....	8,286	(5)	(1,103)	8,975	(7)	(1,235)	159	190
Crawford.....	13,229	(26)	(1,977)	14,290	(16)	(2,229)	1,877	1,968
Cumberland.....	18,952	(6)	(2,548)	19,565	(7)	(2,772)	109	135
Dauphin.....	19,839	(26)	(2,474)	20,198	(24)	(2,620)	247	271
Delaware.....	14,460	(11)	(1,263)	14,540	(10)	(1,434)	315	350
Elk.....	7,348	(2)	(1,209)	7,977	(2)	(1,261)	560	748
Erie.....	22,810	(19)	(3,222)	24,097	(18)	(3,424)	1,621	1,968
Fayette.....	16,676	(17)	(2,418)	17,172	(14)	(2,546)	535	559
Forest.....	2,415	(5)	(249)	2,478	(4)	(271)	829	1,189
Franklin.....	13,942	(5)	(1,812)	14,215	(4)	(1,847)	977	1,033
Fulton.....	2,963	(11)	(404)	3,123	(6)	(422)	336	411
Greene.....	5,035	(6)	(717)	5,029	(6)	(763)	343	449
Huntingdon.....	8,960	(16)	(1,244)	9,506	(11)	(1,259)	533	595
Indiana.....	11,614	(6)	(1,667)	11,784	(7)	(1,712)	662	792
Jefferson.....	10,174	(17)	(1,497)	10,426	(21)	(1,567)	1,143	1,344
Juniata.....	4,662	(2)	(459)	4,829	(2)	(496)	143	166
Lackawanna.....	14,213	(16)	(1,702)	15,127	(50)	(1,910)	433	515
Lancaster.....	31,802	(17)	(3,852)	32,933	(19)	(4,219)	239	284
Lawrence.....	10,650	(9)	(1,575)	10,937	(9)	(1,718)	2,509	2,792
Lebanon.....	11,083	(12)	(1,436)	11,380	(10)	(1,541)	83	86
Lehigh.....	16,826	(11)	(1,736)	17,449	(10)	(1,820)	282	275
Luzerne.....	26,671	(36)	(3,262)	27,086	(34)	(3,387)	941	1,012
Lycoming.....	18,047	(14)	(2,440)	18,967	(13)	(2,473)	475	511
McKean.....	8,871	(6)	(1,489)	9,119	(4)	(1,433)	1,945	2,310
Mercer.....	15,858	(10)	(2,296)	16,272	(9)	(2,413)	3,837	4,330
Mifflin.....	8,746	(9)	(1,242)	9,101	(6)	(1,288)	285	341
Monroe.....	7,476	(4)	(850)	7,688	(5)	(906)	817	921
Montgomery.....	25,303	(15)	(2,778)	25,400	(18)	(2,929)	104	147
Montour.....	2,575	(4)	(382)	2,571	(1)	(396)	26	59
Northampton.....	14,225	(10)	(1,572)	14,440	(9)	(1,686)	1,026	963
Northumberland.....	12,921	(12)	(1,766)	13,179	(14)	(1,867)	131	166
Perry.....	5,697	(3)	(792)	6,223	(4)	(881)	74	126
Philadelphia.....	20,772	(23)	(1,153)	21,291	(22)	(1,231)	987	1,003
Pike.....	5,287	(4)	(532)	6,014	(4)	(622)	2,499	2,876
Potter.....	3,771	(9)	(570)	4,034	(10)	(635)	1,475	1,688
Schuylkill.....	17,995	(23)	(2,423)	18,424	(18)	(2,475)	277	304
Snyder.....	4,676	(6)	(729)	4,626	(6)	(743)	82	98
Somerset.....	12,291	(22)	(1,836)	12,635	(16)	(1,878)	817	1,021
Sullivan.....	2,322	(6)	(340)	2,578	(6)	(344)	193	209
Susquehanna.....	5,111	(2)	(764)	6,303	(4)	(972)	731	862
Tioga.....	8,581	(6)	(1,295)	9,073	(9)	(1,390)	1,088	1,241
Union.....	4,214	(3)	(589)	4,546	(4)	(640)	112	123
Venango.....	10,250	(11)	(1,612)	10,907	(10)	(1,716)	1,444	1,686
Warren.....	7,106	(10)	(1,085)	7,450	(10)	(1,162)	1,847	2,126
Washington.....	19,697	(12)	(2,619)	19,942	(17)	(2,686)	934	1,002
Wayne.....	5,439	(12)	(704)	5,985	(11)	(782)	1,173	1,264
Westmoreland.....	35,957	(26)	(4,972)	37,381	(22)	(5,309)	247	286
Wyoming.....	3,254	-	(490)	3,706	-	(541)	190	198
York.....	28,002	(11)	(3,353)	28,981	(8)	(3,683)	1,868	2,086
Dept. of Revenue.....	1,364	-	(113)	1,555	-	(128)	3,053*	4,190*
Totals	899,301	(850)	(116,722)	931,239	(811)	(124,410)	54,364	62,654

The Figures under D.V. indicate "Free Licenses" issued to Resident Disabled War Veterans and are included in column of "Resident Licenses."

The Figures under JR. indicate Resident Licenses issued to Juniors and are included in the column of Resident Licenses for 1965 and 1966.

Non-Resident Licenses include Alien Non-Resident Hunters' Licenses issued as follows: 1965, 21; 1966, 36.

* Includes Non-Resident Licenses issued by P. G. C. Division Offices as follows: 1965, 191; 1966, 539.



ELMER MILLER, Strausstown, with 15-lb. wild turkey taken on State Game Lands No. 110 in northern Berks County. Mr. Miller is 74.



CAROL HORNER, a high school senior from New Wilmington, was first prize winner of the Pennsylvania Federation of Sportsmen's Clubs hunter safety contest. Here she receives a check from Bob Moorhouse, New Bedford, president of the Northwest Division of the PFSC.

OFFICIALS AND PENNSYLVANIA GAME COMMISSION members who recently toured the Kinzua Dam area (from left): Jack Ewers, Harley Wilson, N. J. Molski, T. A. Reynolds, W. A. Hodge, Dave Titus, Richard Wright, Lester Sheaffer, James A. Brown, Don Miller, Roy Trexler, George Norris, John Smith, Ralph Britt, S. J. Kern, Harvey Roberts, John Sedam, Glenn Bowers and Robert Lichtenberger.





DGP DUANE GROSS, Forest County, holds trophy he won in shoot-off with **DGP Lorraine Yocum**, right, of Oil City, while **FBI Agent Ollie Hunter** looks on.



DEPUTY K. S. PHILLIPS, Bangor, who visited Europe this summer, took time to sell several subscriptions to **GAME NEWS** in England.

2101 Geese Harvested at Pymatuning

Waterfowl hunters had an excellent season this year at the Pymatuning Waterfowl Area, harvesting 2101 geese from the controlled goose shooting area and 1910 ducks from the controlled duck shooting area.

In addition, hunters took another 855 geese outside the controlled shooting area, making a total of 2956 geese bagged at the Pymatuning.

Ray M. Sickles, Pymatuning waterfowl management agent, reported that 3573 hunters used the 40 goose blinds constructed and maintained by the Game Commission. One thousand holders of goose blind reservations were selected from a record 18,225 applicants in an early October drawing. Each reservation holder was permitted to take three guests to his blind.

A total of 2401 hunters used the duck blinds, making a grand total of 5974 hunters at the Pymatuning controlled shooting areas this year.

Mallards were in greatest abundance among species of ducks harvested at Pymatuning. The mallard harvest totaled 1046, more than half of the total ducks bagged.

The goose harvest included 946 adults and 1155 immature birds, or an age ratio of 1 adult to 1.22 immatures.

The fall wild goose population at Pymatuning jumped from 2800 on September 15 to 10,000 on September 30 and peaked at 15,000 on October 2. The population remained fairly high for several weeks, numbering 11,000 on October 8 and 14,000 on October 14; then the number declined steadily until November 30, when about 5500 were present, the number which usually overwinters at the Pymatuning.

Pennsylvania Near Top in U. S. Big Game Inventory

The Pennsylvania Game Commission's Triple Trophy program has received another boost with the compilation of the annual Big Game Inventory by the U. S. Department of the Interior.

The Game Commission presents a Triple Trophy Award to a hunter who harvests a bear, antlered deer and wild turkey during the same hunting license year.

The Federal survey shows Pennsylvania's position as the Number One hunting state to be virtually unchallenged.

For instance, in 1966, only one state, Texas, had a deer harvest larger than Pennsylvania's. But there were only two bears taken in that state, compared to 605 tagged in the Commonwealth. Florida, the only state which took more turkeys than Pennsylvania, had a deer harvest of 21,000, compared to 118,753 bagged in our state, and produced only 15 black bears.

Of the comparative handful of states with larger bear harvests, none came close to Pennsylvania in the number of deer and turkey taken. Actually, the Federal survey shows that Pennsylvania is one of the few states where all three game species are available in good numbers.

ONE OF FOUR BULL ELK illegally shot in Elk County during deer season is examined by Northcentral Supervisor Ray Morningstar. Such slaughter is sickening to law-abiding hunters. Pennsylvania has only a small herd of elk—approximately 50 animals—and to kill any, knowing they are fully protected, is a pointless, irrational act.



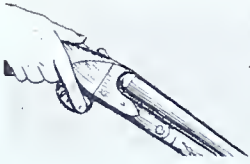
Conservationist Named

The Jefferson County Soil and Water Conservation District recently selected Donald Miller, Superintendent of the Ross Leffler School of Conservation, as the outstanding conservationist of Jefferson County for 1967.

Mr. Miller has participated on many committees to further the wise use of our natural resources, especially wildlife, and has been a leader in the county's conservation and hunter safety programs. This year Jefferson County salutes Donald Miller as "Conservationist of the Year."

Notice . . .

We receive many letters at the GAME NEWS editorial offices, and make every effort to answer each one. Occasionally, however, we get a letter, usually unreasonably critical of something, to which we cannot reply, as it bears no signature or return address. The writer often suggests that his letter be printed in GAME NEWS. Anonymous letters will not be printed.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



VIDEO TAPING A HUNTER SAFETY program during the Mifflin County school district program. The entire region benefited from this program.

Hunter Safety on Television

PENNSYLVANIA'S initial effort in educational TV hunter safety recently was presented to 6700 Mifflin County students of the Lewistown-Granville area school district.

Arranged through the cooperation of Frank S. Walker, Jr., District Superintendent of Schools, an instructional television program on hunter safety was presented by District Game Protectors James Moyle, Mifflin County, and Robert Shaffer, Juniata County. Hosting the four special programs was David E. Conner, Supervisor of Occu-

pational Education and a nationally certified hunter safety instructor as well as an experienced gun handler of many years' hunting experience.

Mr. Walker's interest in safety education as a part of the school curriculum made it possible for each student to familiarize himself with the safe handling of firearms in the home and in the field. The program, made up of four 15-minute shows, was produced by the Mifflin County School District television studio under the direction of William J. Lesko, Instruc-

tional Television Fixed Service Director. Three days of hard work were spent in preparing the detailed information necessary for the program, the camera crews and the technicians. Then, with the fine touch of Director Lesko, Pennsylvania's first educational television hunter safety program was under way.

Many Subjects Covered

Various subjects were covered by means of practical demonstrations and explanations. The different designs of sporting arm actions and their methods of operation were explained, along with the types of ammunition used. The hunter's responsibility, which includes hunter-landowner relations, transportation of arms, the need for wearing conspicuous-colored clothing, and a summary of Game Laws were presented as the hunter's responsibility to himself, his fellow hunter, and the landowner. In discussing safe gun handling habits, a slide presentation of the "Ten Commandments of Hunter Safety" was prepared by Joseph Chick, Conservation Information Assistant of the Pennsylvania Game Commission's Southcentral Division, and narrated by James Moyle. These ten points of safety proved to be a very useful television instructional aid.

Simulated scenes depicting the safe and unsafe ways of handling a sporting arm in the field will be added in the future, with actual student participation under various kinds of hunting conditions.

This series of television broadcasts to the Mifflin County schools was presented during the 1967 hunting season and climaxed by a visit to each school by the District Game Protector. He showed an appropriate firearm safety film for review and clarification

of the instruction already received. A hunter safety examination was administered by classroom teachers and each student receiving a passing grade received an identification card and certification that he had successfully completed a firearm safety course.

Many of the high points of training were given to each student in a copy of the Pennsylvania Game Commission Hunter Safety Training Guide. Included with the guide is Pennsylvania's "Firearm and Hunter Safety Attitude Inventory," developed for use in Pennsylvania's schools by Dr. Frank Anthony of The Pennsylvania State University. The inventory further measured the attitude each student developed about firearm safety after receiving Pennsylvania's initial TV presentation with a four-hour hunter safety course of instruction.

First reports of Pennsylvania's educational Hunter Safety Program indicate that significant improvements are made in pupil achievement when instructional television is used as teacher aid. This improvement occurs regardless of previous grades, subject, ability or class size. Therefore, such a program has important results.

Talking to many people of Mifflin County reveals that this educational television program, through the students' influence in their families, has created a very favorable attitude toward firearms generally and the Hunter Safety Program in particular, especially on the part of people who had no prior acquaintance with either. For this reason, as well as for the general excellence of the presentation and the large number of students reached, this program is bound to have a profound effect on hunter safety in the area. It is hoped it can be emulated elsewhere.

The Eleventh Commandment

After studying the Ten Commandments of Hunter Safety, one youngster suggested an additional one: "Pick your hunting companions carefully."





By NED SMITH

In the late winter woods, a fluffy snow becomes a "blackboard" for wildlife, while mergansers flock in ice-free waters and a turkey feeder provides food--but not for turkeys.

IT SNOWED last night—ten inches of clean, white fluff to cover the pockmarked, brittle patchwork of earlier snowfalls.

I won't go hiking today; it's so new there'll be little but squirrel tracks written across it. But tomorrow will be different. With depth and softness to muffle my footsteps and the white background for contrast, there's little that will escape observation. And even those wild creatures that leave before my arrival will not go unnoticed. Their tracks will tell me who they were and probably what they were up to.

With the patches of bare ground covered once again, foraging birds and animals will be patronizing my feeders and baited blinds with renewed enthusiasm. A few hours in the blind, swathed in insulated clothing and armed with camera and telephoto, should result in at least a few new color shots of my "customers."

Of course, snow isn't all good. It's a headache to the traveler on slippery highways, and to the guy with a long driveway to shovel. But to the outdoorsman every snowfall is like getting a new book to read, and one aspect of winter I'll miss when March finally gets her foot in the door.

February 2—The river is practically icebound, and nearly every open spot is frequented by a group of wintering ducks. The fast water at the head of Mahantango Mountain never freezes, and it is the favorite haunt of a flock of American mergansers. I watched them feeding today, diving into the icy rapids for the minnows they had located there. The males were showy birds—their bodies gleaming white in contrast to the glossy black scapulars and iridescent dark green heads. They rested low on the water, slender red bills tilted upward. By comparison, the hens looked a trifle dowdy in their plain gray plumage and shaggy brown crests.

When I returned this afternoon the males had left and the females were sleeping contentedly in the sunshine. One hen catnapped while treading water near the edge of the ice. The other four slept on the ice with their bills tucked under their back feathers, lined up like figurines on a dealer's shelf.

Yesterday I noticed a drake merganser crossing the snow-whitened ice from one open spot to another. He was obviously not built for walking. His legs were much too far back, necessitating an unnaturally erect pos-

AMERICAN
MERGANSER



ture, a laborious waddle, and frequent rests on his belly.

February 3—The shriveled wild grapes that clung to the vines along the riverbank all winter are finally being sampled. Today I watched a male cardinal wrenching them free with his stout, orange bill.

February 7—I tramped through eighteen inches of snow to check on the turkey feeder this afternoon. The turkeys haven't been in the area, but everything else has been enjoying the handout. Two gray squirrels slithered out of the feeder at my approach, and a mixed flock of chickadees, titmice, and nuthatches scattered into the surrounding trees.

Stepping up to the pole-and-chicken wire crib feeder I was surprised to see a big, fat gray squirrel inside, busily eating the germ out of each grain of corn as he shelled it. Instead of leaving in a panic when he saw me coming he stepped up his feeding, obviously trying to eat as much as he could before withdrawing. I eased up to within eleven feet—as far as my flash would reach—and took a flash picture through the telephoto lens. When I glanced up, he was still there, eating at top speed! Unfortunately, that was the last frame on the film, and as I reloaded a short distance

away he slipped out of the feeder and disappeared through the woods. The surprising thing is that this was a so-called wild squirrel; the turkey feeder is nearly two miles from the nearest habitation.

February 8—Tracks fascinate me, and over the years I've amassed quite a collection of drawings and photographs of many kinds, from shrews to moose. This morning I measured the stride of a frightened doe, and the results should explain why a running deer is hard to hit. After jumping from a laurel patch she bounded down a gently sloping woods road, clearing up to eighteen feet between sets of hoofprints! Each group of four footprints covered six to seven feet, making a complete bound of twenty-four or twenty-five feet!

February 11—Folks who believe that deer feed only at night should have been with me today. Dozens of deer were grazing in the food plots in the State Game Lands, apparently enjoying the warm sunshine. I tried to get something different in deer photos, and finally succeeded in taking a series of a little yearling doe. She discovered me crouched in the stubble a short distance away, and as she perked up, raised her tail, stamped a forefoot, and finally galloped into the woods I snapped the shutter as fast as I could without making an abrupt movement. She looked great through the finder; I hope the transparencies look as good.

I'm often amused by the way a deer will march right up to me when I'm crouched, sitting, or lying on the ground. They obviously can't see what manner of creature I am, and apparently I don't look threatening at a distance. At close range, however, they invariably change their minds, wheeling about and putting a few bounds between them and me. Then they either snort and stamp and make a great fuss before leaving, or they

simply disappear into the woods, depending upon how sure they are that the object of their attention is really a threat.

One doe I tried to stalk today came striding up to look me over. For all her tense alertness, her two fawns couldn't have been more unimpressed. They followed dutifully, one at each flank, looking completely bored and unconcerned. Not until she pulled up snorting did they come alive, and then they beat her back to the scrub oak by two or three lengths.

February 14—The steady application of sunny days and warm nights has eaten up nearly all the snow, except on the north side of the mountains. Apparently it has swelled the tree buds, too, for I saw a red squirrel feasting on the buds of a Chinese elm in Millersburg today, dangling head downward from the slenderest twigs.

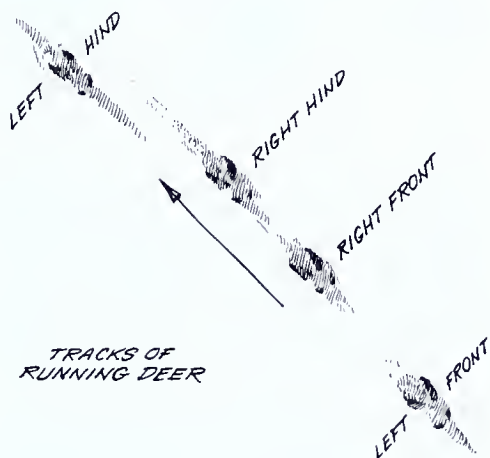
February 17 — Ben M. told me he tried unsuccessfully to "hoot in" some great horned owls along the mountain, but when he changed to a predator call a pair immediately landed in the oak tree beneath which he was standing. His brother verified that they perched on the same limb, only a few inches apart and not far above his head, and hooted mournfully as long as Ben wailed on the predator call. Finally tiring of blowing, Ben quit. The garrulous pair fell silent, then softly winged their way up the mountainside.

February 18—The sound of faint warbling led me to a sun-warmed slope along the edge of the swamp this afternoon. The singer proved to be a myrtle warbler — probably the only wood warbler species to winter in our locality. As I suspected, he was feeding on poison ivy berries, apparently an acceptable substitute for the bayberries they relish in their better known wintering areas on the coastal plain.

If this change from an insectivorous

diet in summer to a berry diet in winter surprises you, consider the woodpeckers. During most of the year they apparently eat little but insects, chiefly grubs and borers they dig out of trees or pick out of the bark. Suet is often offered by birders in winter as an animal food supplement, but the woodpeckers often prefer seeds and the like. The downies hanging around the turkey feeder carried away the grains of corn as fast as they were shelled and relieved of their germs by the squirrels. Jamming them into crevices they hammered them to pieces with their bills. Dick M. tells me the red-bellied woodpecker that comes to his feeder prefers field corn to all the other goodies.

Many of the northern finches have even more surprising tastes. Yesterday, for instance, I photographed some white-winged crossbills and pine siskins at Camp Hebron. They were daintily nibbling at the bare ground in the driveway, attracted by the salt that had been sprinkled there to melt the ice.

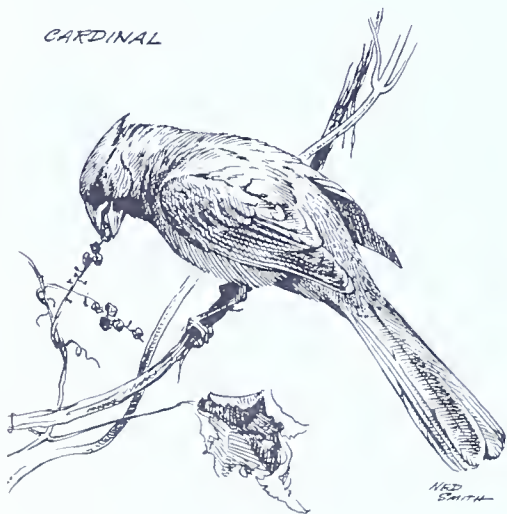


February 23—Spring is not quite ready to move in; we had more snow yesterday. Every here and there I see a miniature trough in the snow, like the tracing of a slender fingertip, stitched with tiny footprints. It usually travels a rather straight line, then plunges

beneath the sparkling surface. This is the track of one of our shrews, among the smallest of all mammals.

Shrews burn up energy at an incredible rate, and without food will starve in a few hours. How they rustle up enough calories to keep body and soul together during the long winter months is, to me, one of nature's mysteries. Although classed as insectivores and presumably given to an animal diet, some species have been trapped by collectors using peanut butter as bait. Does this suggest that they might successfully supplement their diets with vegetable foods when the going gets rough?

CARDINAL



February 27—Starlings don't *always* have it made. Today, while driving along the Shippen Dam Road I saw a sharp-shinned hawk skim over a fence and grab one from a flock that had been feeding in a grassy spot along the run. He became uneasy when I stopped the car for a better look and standing over his terrified victim, he stretched to full height and gave me a piercing look. The starling kept lifting

its one free wing; the hawk repeatedly pressed it down with his other foot.

Finally he took flight, carrying the starling tail-first of all things. Barely clearing the ground, they crash-landed among some sumac and honeysuckle on the side of the bank. Here the hawk apparently felt less conspicuous, and through the telescope I watched him pluck and eat his kill.

The sharpie was almost dainty. After pulling a few bunches of feathers from the neck and back he killed the starling so deftly I didn't see how it was done — apparently he bit the skull or broke the neck. At any rate he plucked his prey thoroughly as he ate. For some reason he abruptly flew away about half an hour later, leaving one half of the breast and the leg on that side uneaten. A circle of feathers surrounded the bones of the other leg, the mandibles, and the crop.

By comparison an owl has terrible table manners. It usually wrenches the head off his victim and swallows it whole. Then it yanks out most of the flight feathers; that's about as much plucking as it usually does. The carcass is devoured in huge chunks, feathers and all, gulped down with blinking eyes and jerking head.

The result is the same, of course. The predator—owl or hawk—has done his small part to keep the starling population within bounds, and the starling has provided a meal for the predator. That's the way nature planned it, and except for man's interference it would work very well. Unfortunately, man *has* interfered both by introducing the starling in the first place and by nearly wiping out many of its enemies, especially the hawks. That we're up to here in starlings can hardly be blamed on nature.

Busy as a Wren

For parental energy in looking after its young, the house wren has all other birds topped. One wren was recorded as having fed its young 1217 times during the daylight of one day.

Floating Jackknife

By Don Shiner

EVER LOSE a favorite knife to the marshy depths while cutting brush for a duck blind? Or maybe you've accidentally dropped a knife over the boat side while fishing or setting out a spread of decoys. Whatever the case, it's a sad experience to lose a favorite knife to a watery grave.

No need to worry about this happening when your knife is one of the new floaters.

The new folding-type knives that float, now available in the U. S., have thick cork handles and stainless steel blades. This floating cutlery is handy for cutting decoy anchor ropes or brush for the blind, for scaling and cleaning fish or game, opening bottles, removing deeply imbedded fish hooks, and numerous other chores. In short, these cork handle knives will do about everything except sink!

These floating pocketknives have been popular in Europe for quite some time. Waterfowl hunters, fishermen, boaters and others who spend time in or around European waterways use the floaters extensively. They are presently being imported and distributed by Scott E. Products, 218 West Broadway Street, Lewistown, Mont. 59457.

Two models are presently available. One has a single 3½-inch stainless steel blade which folds neatly between a sandwich of rustproof brass inserts within the thick cork handle. The other knife, somewhat larger in size, has three blades—knife, gaff, and a combination fish-scaler, hook extractor and bottle opener blade. Both models have ⅝-inch thick cork handles, replacing the usual stag or bone handle found on the common pocketknife. The thick slices of cork, which are glued to the handle, give sufficient buoyancy to keep this cutlery floating for days, perhaps weeks, in water.

The soft, resilient cork handles are



THESE CORK-HANDLED knives float indefinitely, even when handles are sanded down a bit for convenience.

pleasant to grip, though on the bulky side. The manufacturer suggests using a medium-fine grade of sandpaper to cut down the handle slightly to achieve a comfortable grip suited to the individual's preference. Handles of both models are supplied, on request, with "glow material," a tape-like adhesive material that glows for hours at night. The substance can be reactivated with light from a hand-flash or car headlight. A knife so equipped has obvious advantages for night use.

Our first opportunity to use one of these floating knives really put it through a severe test. An ordinary knife with, say, a heavy bone handle,

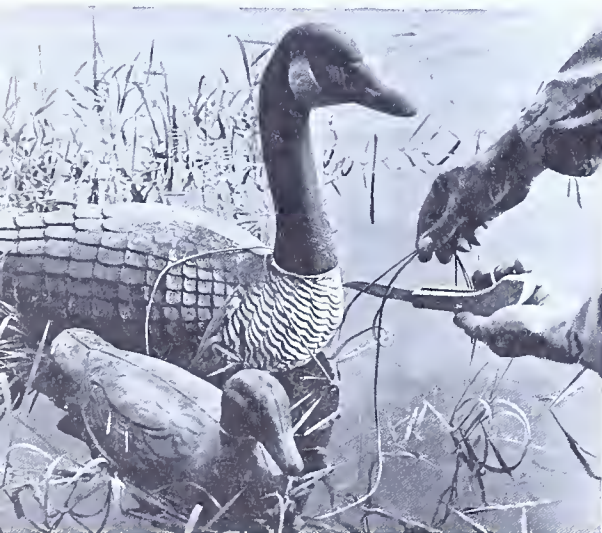
would have been lost during the excitement to the watery depths of the sprawling Susquehanna.

The initial trial got under way shortly after a phenomenal build up of mallards and black ducks became apparent on the North Branch of this river. Flocks of much larger than normal size veered off the Eastern flyway, for some unknown reason, to fly inland to the northcentral portion of the Susquehanna. Since I live within a stone's throw of this river, I was able to watch with keen interest the unprecedented increase in waterfowl.

Early one morning after the season opened, I pulled on hip boots, grabbed shotgun, floating knife and decoys, and set out for the river, where I had earlier constructed a temporary blind. I stashed the gun, along with other gear, in the blind while I proceeded to arrange a spread of decoys some twenty yards from shore. I set out a number of mallard blocks, then moved off to one side to anchor several Canada geese decoys.

The geese decoys were new and anchor ropes had not been tied to them. I took time now, aided by the new floating knife, to cut short ropes for this purpose. Purely as an experi-

SHINER TESTED floating knife while waterfowl hunting on the Susquehanna River near his home. He found it worked well.



ment to learn whether the knife would sink or float as the manufacturer and importer claimed, I dropped it into the water near an island of weeds. About that same moment I heard faint, though distinct sounds of ducks quacking. A glance downstream showed mere specks on the horizon, perhaps twelve or fifteen in number. Since I was in the open, there appeared no alternative but to dash headlong toward shore and seek cover in the blind. I dropped everything. With head down and bending low to the water, I waded fast as possible, hoping to be mistaken for a moose or harmless domestic cow!

The ducks may have been fooled momentarily, but not for long. They veered off, well out of range, as they passed the decoys.

My disappointment was short-lived. Another flock appeared shortly. The birds came straight in to the decoys, feathering and dropping landing gear as they prepared to settle in the water.

I had several shots during the next hour. There was a general lack of shooting in the area, however, indicating that few hunters were on the river this morning. As the sun climbed higher, action tapered off to nothing. After awhile, I decided to fold shop and go home. I set out to retrieve the decoys. Suddenly it dawned on me that, during all the excitement of seeing the first incoming flight, I had forgotten to pick up the floating knife! I felt sure it had remained afloat, but there was no telling how far downstream it might have gone.

I spied the knife floating in a tangle of weeds near the geese decoys. Luckily, strands of weeds kept it from

washing away with the current. It seemed perfectly obvious that a floating knife has certain advantages. An ordinary bone-handled knife would have sunk immediately to the bottom to become lost in the discolored river water.

Floating knives are not exactly new. One model, which has been available for a number of years, has a straight hunting-type blade, and is supplied with a leather sheath. It has a husky handle of pressed cork. It floats in a vertical position, much like a fishing bobber.

Another straight-blade model is encased in wood, with handle and sheath copied after the famous hara-kiri knife of Japan. Both float. They're good knives to use around water.

The newer floating jackknives shown in the accompanying pictures have an advantage over other styles in that their blades fold into the cork handle

for safe carrying in a shirt or pants pocket.

Neither this column nor the Game Commission is in business to sell knives or other products mentioned on these pages. Our purpose is to acquaint readers with new products that have practical application to hunting or allied outdoor activities, and to test the products to reveal whether a manufacturer's claims are valid or exaggerated.

Limited tests show that the new floating knives live up to their importer's claims. They float well. Metals throughout are of the type that resist rusting.

Not only will owners be able to retrieve this knife when dropped into a marsh, but the soft handle will help prevent calluses or blisters forming while carving decoys from soft pine blocks. Jackknives with large cork handles have a lot going in their favor.

Long Distance Deer Hunter

Technical Sergeant Richard H. English, son of Mr. and Mrs. Richard A. English, 24 Cone Street, Wellsboro, Pa., quite likely holds the record for having traveled the longest distance to hunt deer in Pennsylvania during the 1967 deer season.

Sergeant English, who is stationed at Mildenhall, England, with the U. S. Air Force, arrived at Hartford, Conn., via an Air Force plane on Sunday, November 26. He hitchhiked to Corning, N. Y., where his mother met him and drove him home to Wellsboro. He hunted deer with his father in the Wellsboro area on the opening day, and departed at noon on November 28 for the return trip to England via another Air Force plane.

Sergeant English didn't get a deer, but he certainly deserves a commendation for thinking enough of Pennsylvania deer hunting to travel 6,000 miles to enjoy just one day in the Northern Tier mountains.

Incidentally, his father killed a buck the day after Dick's departure.

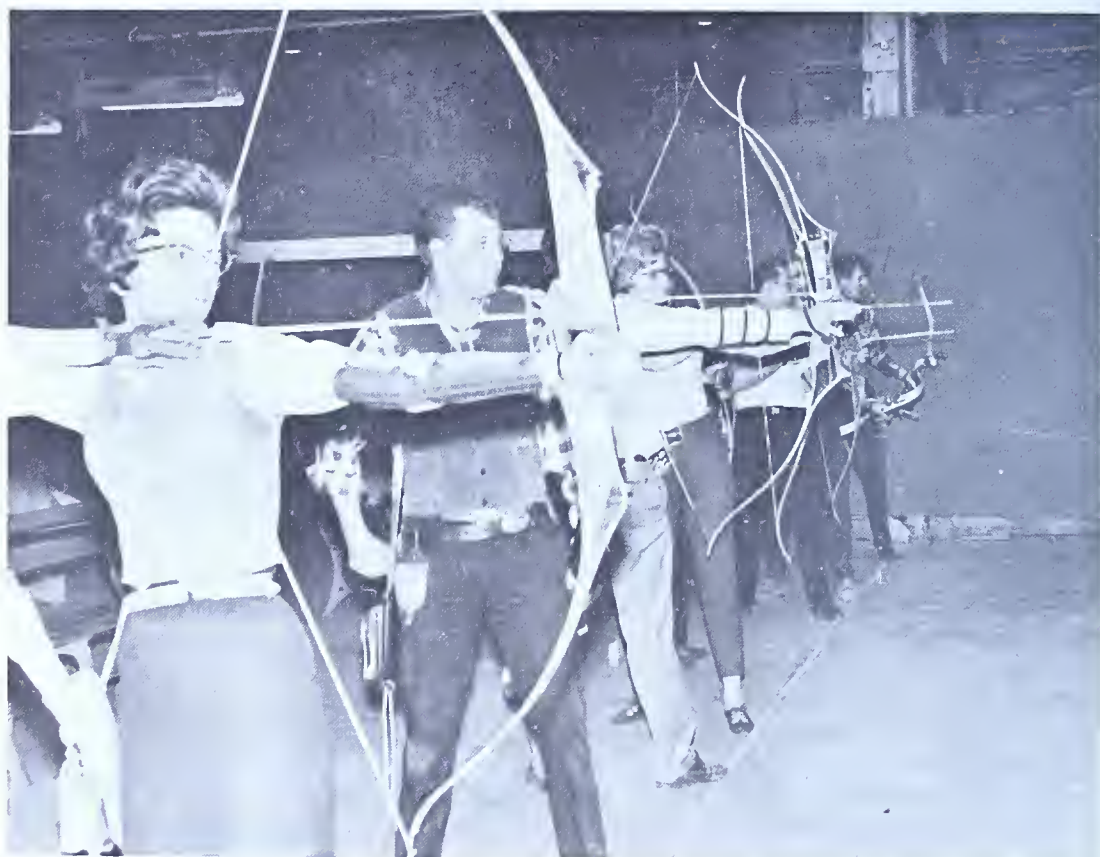
Careless Consumption

"We Americans have given painfully little recognition to the fact that our land and its resources are part of one ecological whole—that one day, at perhaps the least convenient time, we will have to pay the bill for our careless consumption. The truth of the matter is that in the way we use our water and our land and our wildlife we are a very wasteful people."

—Stewart L. Udall

Looking for Some . . .

Archery Answers



By Keith C. Schuyler

Photos by the Author

ALTHOUGH FINAL figures were not available at this writing, there is no question that archers chalked up the all-time Pennsylvania record for participation and for deer bagged in the recent bow hunting season. Despite the excellent participation, the fact remains that bow hunters have a poor ratio of success. Consequently, it follows that all archers who are bow hunters should grab every opportunity to improve their shooting ability.

The last day for bow hunting was January 6, this year, but most bow hunters hung up their equipment the last Friday of October. Many, of course, score in the gunning season.

Others, for one reason or another, do not take advantage of the special seasons which are provided after the guns go quiet. Nevertheless, those who wish to hunt big game with the bow should still seek ways to develop skill with this equipment.

This makes indoor shooting a natural for the cold months when everything else is quiet outside.

The poor success ratio for bow hunters continues to puzzle many of us. For example, even without final figures it is quite evident that the success ratio for the seasons just ended was only two or three percent. It is certainly strange, when you consider it, that this seems to be the magical

figure, regardless of the number of hunters.

We would certainly expect the success ratio to drop each time there is a great increase in hunters. Obviously, when this happens there are a great number of new hunters, and these are not as experienced as archers who have been around for years. Yet there is no significant change in the success ratio. For example, in 1957, when there were only seven days of hunting, 55,559 archers took 1358 deer for a success ratio of 2.44 percent. The following year there were 72,937 archers who took exactly the same number of deer to drop the success ratio to 1.86 percent. And, there were about 2 weeks more of hunting in 1958. In 1966, there was a great surge forward in the number of archers—more than 15,000 over the previous year—and yet the success ratio was 2.41 percent!

Reason for Ratio?

Since at first glance we would naturally expect the success ratio to always drop drastically when thousands of new bow hunters enter the sport, there must be a reason why this is not so. The only plausible reason seems to be that those who go hunting for the first time put in plenty of practice before they try it. After they get a deer, they probably feel they have it made and don't worry about pre-season practice in the future. If this were not so, the success ratio should jump substantially each year, for there is always a hard core of experienced hunters who take a large percentage of the deer.

For example, John Sibley of Towanda bagged his tenth deer this past season out of eleven years that he has hunted. It is true that John was raised in deer country, and he teaches school in an area where hunting is excellent. But there are fellows like him scattered over the state who can be counted upon to produce much of the harvest in any given season.

Others I know have contributed heavily to the score in my area. Without exception, these hunters are also target archers who get plenty of practice. And yet, despite the fact that these fellows would all come up with a respectable score in any match, you will find them out there sharpening up their ability before the bow hunting season begins.

Good deer hunters know it is the first shot that is important. Any average archer can start laying the arrows in there after a few rounds, but the smart archer prepares for that first big opportunity. In hunting, the second or third shot usually doesn't mean much if the first shot was a miss.

Homer "Dutch" Wambold of Emmaus is producing proof of a sort that even the most expert hunters need continuing practice. Two years ago the Dutchman came up with what he calls his Cold Turkey Trophy. This is a large club trophy which requires three wins for permanent possession. To gain a leg on the trophy, it is necessary to win out over the best

BONNIE REEDER, Carlisle, pulls her arrows after shooting a respectable score from 20 yards.





THE DUTCHMAN, Homer Wambold, with Dick Butler, Owego, N. Y., who won a leg on the Cold Turkey Trophy during the Bowhunters Festival.

shooters at the Bowhunters Festival held in Forksville each year.

Each club president is invited to send his two best shooters to participate in the two-shot contest. The first arrow is released at a three-dimensional standing deer target at 30 yards distance. A vital area which is not visible to the shooter is marked off on the target before shots are taken. Only those hitting in the vital area count. The second shot is taken at the running deer target, a three-dimensional life-sized target which runs on a track. The distance is 20 yards. Again, a vital area is marked off.

In 1966, 42 shooters from 21 clubs participated. Only *four* hit the vital area on the standing deer with the one arrow permitted. These four qualified for a shot at the running deer. Of the four, only *one* scored in the vital area. In 1967, 48 shooters participated. Once more, only four qualified for the running deer. And only one, Dick Butler of the Tioga Bowmen, Owego, N. Y., was successful on the running deer. These were no Johnny-come-lately

bowmen. They were the best out of well over 2000 shooters at the Festival. Wambold, who has successfully hunted big game with the bow over various parts of the United States and Canada, developed the contest with the aim of encouraging bow hunters to improve their shooting ability under simulated field conditions.

The preceding alone should be sufficient grounds for encouraging year-round shooting with the bow and arrow.

Indoor Archery

In communities like West Chester, where the accent is on target archery, there is indoor shooting the year around. The Brandywine Bowmen Club has an excellent indoor range set up in the Knights of Columbus building in West Chester. Other archers have their own personal ranges in a barn or a cellar, and they are able to practice throughout the winter season.

There is a great need for more winter events to keep target archery alive, such as that held in the Eastern Sports and Outdoor Show held in the Farm Show Building in Harrisburg each February. Although plans for the 1968 event had not been formalized at this writing, the Archery Tournament has been an important part of the show since its inception 13 years ago. This event has been chosen for illustration here because it is an excellent example of what can and should be done in more areas of the state.

Bill Newcomer, who operates the Four Aces Archery Lane at Carlisle, has served a number of years as chairman of the Tournament with the assistance of Jack Reeder, also of Carlisle. The Harrisburg event has been an open archery tournament with competition for both instinctive and free-style archers. The range opened daily at 3:00 p.m. with three events shot. First would be at 3:30 p.m., the second at 6:30 and the third at 8:30. This provided an opportunity for any



THIS BUTTON BUCK was the tenth deer in eleven years for bowman John Sibley of Towanda. A pretty good average, we'd say.

who had to limit their time. For those who could make it only on Saturday, a shoot was held at 10:30 in the morning.

Finals were held Saturday afternoon with the juniors and intermediates shooting at 12:30. An hour later, the instinctive shooters took over, followed by Class C instinctive and free-style shooters at 4:00 o'clock. The instinctive and free-style archers went on at 6:00, and the top shooters in the A instinctive and free-style class finished the event with the shoot at 8:00 o'clock in the evening. Daily class winners were eligible to compete for the Show Class Championships on Saturday. An individual could win only one first place award in each division during the show except on Saturday during the finals. This kept the competition lively and made it possible for anyone to drop in on a weekday to qualify for the big shoot on the weekend.

Men, women, juniors and intermediates, free-styles and instinctives, all competed in their own separate classes

and divisions. Any official State or National Field Archery Association classification card was honored to determine classification.

The American Indoor Archery Association 20-yard round, consisting of three events of 20 arrows with five arrows to an end, was used. The four ends were scored five—four—three—two—one on a 20-inch AIAA official target face.

Medals were awarded daily to the two high scores in each class in each division providing there was competition. Trophies were awarded to the class champions of the show in the finals. Each day, the high scorer in each class was invited to become a guest of the show for the finals on the following Saturday. Daily participation fee was \$1.50 for each event to help defray cost of the tournament. As each shooter registered, he was given a target assignment. Registration closed 15 minutes prior to the starting of the following event.

Although the Harrisburg event might be considered elaborate for the

average archery club, it is not beyond the reach of many archery clubs and certainly any regional group should be able to put one together. There are armories, YMCA's and other adequate buildings scattered over the state which are sometimes available.

Archery has certainly *arrived* in Pennsylvania. With some 100,000 bow hunters buying archery hunting tags, a wealth of untapped talent is available. The nucleus of archery is, of course, the Pennsylvania State Archery Association. It has clubs scattered all over the state, and these clubs are missing an almost sure thing by not trying to enlist those who hunt with the bow for the all-year activities which produce good archers and good archery. The Pennsylvania Bow Hunters is promoting trophy hunting with a statewide effort emphasizing hunting. More potential members can easily be found for organized archery.

Most of those on the outside of organized archery are there simply because they have not been invited in. Make an effort to ask them.

The rapid increase in the number of bow hunters is certain to attract an undesirable fringe element. These are the characters who have no real interest in archery per se. They are



ALBEN KARPER registers for tourney as Jack Reeder explains rules and Chairman Bill Newcomer looks on.

just looking for what they consider to be an easy way to take a deer. On the other end of the line are those with a sincere desire to obtain the maximum in the sport and to protect that sport. In between these two elements are thousands of archers who are going it on their own.

There is no better way to promote good shooting and good sportsmanship than by keeping archery in the news through events such as described here.

Book Review . . .

How to Build Campers and Trailers

A recent addition to the book market is *How to Build Campers and Trailers*, a complete build-it-yourself guide covering trailers, folding tent campers, and pickup truck campers. The author, John Gartner, Editor of "Western Outdoors," is a veteran camper and has built fourteen different models himself.

The reader is given an overall picture of the factors involved. Problems encountered in building, popular materials, sources of supplies, ideas for design, chassis construction, and floor plans are discussed in detail.

Mr. Gartner lists four good reasons why a man should build his own trailer: 1) He can get the exact design he wants; 2) It is an excellent hobby; 3) He can use more care in construction than a factory can afford; 4) If he is careful he can save one-fourth to one-third of the cost of a factory model. (\$4.50, from Trail-R-Club of America, Box 1376, Beverly Hills, Calif. 90213.)

What Is This Thing . . .

TRAJECTORY

By Don Lewis

Photos by Helen Lewis

"DO YOU HAVE time to shoot in a cantankerous old rifle for me?" inquired an elderly man as he stepped inside my shop.

"Well, I'm pretty busy, but if it doesn't need any alterations on the scope bases, I'll shoot it in for you while you wait."

"I'm not so sure you won't eat those words when I tell you what caliber this is," he tossed back quickly. "This old rifle is the famous 250-3000 Savage, and with that rippin' fast bullet it's always been a dickens to shoot in. Ever since I had a scope mounted on it, I've never had it shot in right. In the last two years, I've seen half a dozen fellows fail to tame this little speedster. I knew what the trouble was, but I just let them shoot awhile 'fore I told them." He laughed and fired up his pipe.

"If you want to take this rifle when you leave, you'd better tell me. I'm up to my ears in gun work."

Blowing large billows of smoke, he looked at me with a tight grin on his face and said, "There isn't anything wrong with the rifle or the scope. It's the trajectory of the bullet that has them all fooled."

"Trajectory?" I asked. "What has trajectory to do with getting this rifle shot in? As fast as this bullet travels, it's almost flat for the first hundred yards—"

"Wrong you are," he cut in. "You're just like the rest of the gun experts

who tried to zero in this rifle. I can see right now that I'll be out ten to fifteen shells and still have a rifle that won't be sighted in."

The old adage that the customer is always right flashed through my mind, but my blood pressure had risen several notches with his last remark, and I meant to find out if he was trying to string me along or if he actually was serious about the trajectory.

"I know a little about trajectory," I told him. "What's so special about this particular rifle?"

"I reckon a fella your age wouldn't know much about this 250-3000, but it was the fastest, hottest thing on the market back in the old days. It never

LEWIS ADJUSTS scope to give desired bullet impact. He recommends sighting in at 250 yards for most high velocity loads.





TIM LEWIS finds big slug of 348 Winchester excellent at short ranges, where trajectory is no problem.

did get too popular because it threw a bullet so fast it sailed all over the place."

Not wanting to listen to a long history of a load that had been a "hot job" in World War I days, I asked him to explain. Taking the rifle fondly in his hands, he told me that when the bullet left the muzzle, it was traveling so fast that it immediately jumped three to five inches above the barrel, sailed along high for a hundred yards or so and then leveled off in a steady flight. According to him, it didn't start to fall at all until it was out about 250 yards.

"My friend," I told him, "if this rifle will do that, you and I will be millionaires before the week is over."

"It'll do it," he shot back with a glint of anger in his eyes. "Try it and see if I'm not right."

"I believe you think it will, but I can honestly tell you that what you have just told me is impossible; it defies the law of gravity."

"If it isn't the trajectory throwin' the bullet all over the place that's

doin' it, why can't this rifle be shot in?" he asked with a bitter tone in his voice.

"I hope to find out in a very short order," I answered.

Badly Mounted Scope

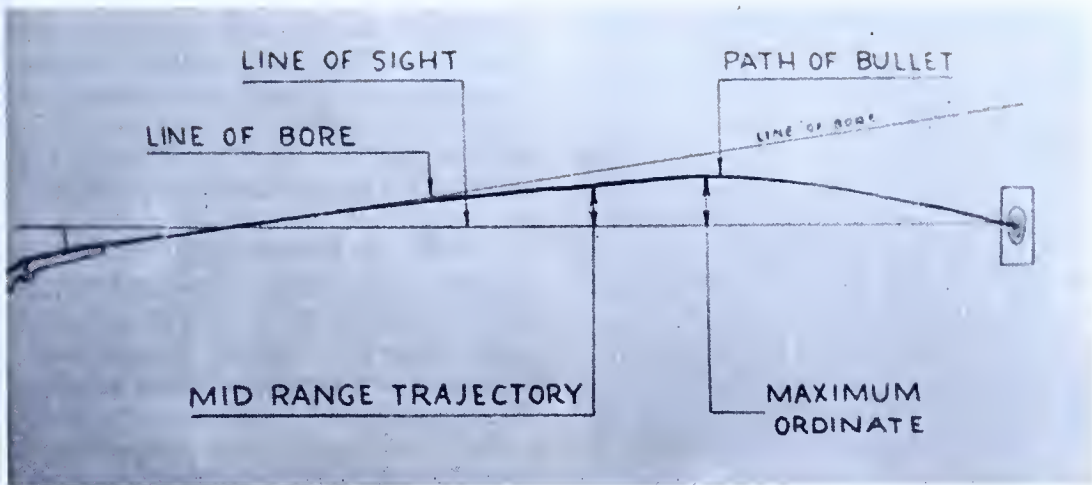
When I stuck the collimator in the muzzle, it took only one look to see that something was wrong. It was impossible to get the scope cross hair anywhere near the cross hair in the bore sighting collimator. The problem was in the mounting. When I removed the scope and bases, I stared with amazement at the worst drilling job I had ever seen. Four ragged holes had been punched into the receiver and not one was near the center. In fact, I couldn't align any three of them, and two of the holes didn't even have threads in them. There was only one solution: plug the holes and redrill the entire rifle.

"I think I have the answer to your problem. The scope was improperly mounted."

"Couldn't be," he replied. "My nephew's boy did the job, and he does gun work for all the fellows around home."

When I explained to him what I would have to do, he finally agreed. Two hours later, I handed him a "cantankerous old gun" that put all its bullets right on the button at 100 yards. I did shoot more than ten or fifteen shells — not to get the rifle zeroed in, but rather for the amusement of an old gentleman who really enjoyed seeing his favorite rifle doing a superb job of shooting at last.

Perhaps the most misunderstood thing in the entire world of shooting is trajectory. Unseen, a bullet flashes from muzzle to target and no one knows exactly how it acts. Some, like the old gentleman, think a bullet rises above the bore and sails merrily along for awhile, before it slows down enough for gravity to pull it to earth. Others believe that the bullet travels the first hundred yards or so on an absolutely



GRAPHIC REPRESENTATION of bullet's path in relation to sight line and line of bore. See text for details.

flat line before it succumbs to gravity.

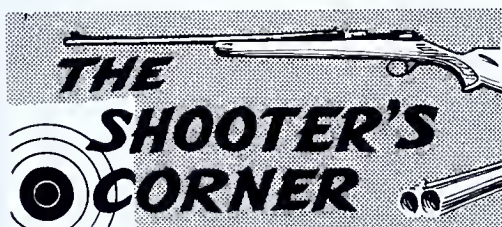
The truth is, a bullet fired parallel to the ground begins to fall the instant it leaves the bore. The law of gravity is constant and honest. A bullet, with all its speed, is no exception. You can get out the family's record book and write across the front page that a bullet cannot, by its own doing, ever rise above the line of the bore.

My customer believed that the high speed of the 250-3000 made it possible for the bullet to defy the law of gravity. This is not true. Simply because the 220 Swift falls only about an inch while traveling the first 100 yards, and the 22 Long Rifle with approximately the same weight bullet falls 12 or 14 inches while going the same distance, does not mean that it was the Swift's speed that overpowered the law of gravity. The Swift's speed merely cut down the time its bullet was subjected to that law. The Swift's average velocity over 100 yards is about 3850 feet per second, compared with some 1150 fps for the 22

Long Rifle. Thus it is seen that the Long Rifle spends about three times as long in the grasp of gravity.

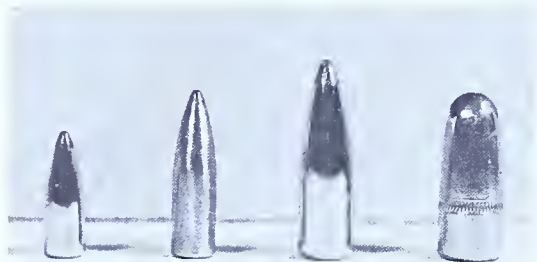
One misconception that I have encountered during years of shooting quite a number of rifles is that it's common to confuse the "line of sight" with the "line of bore." Keep in mind that the line of sight (the line from your eye through the sights to the target) is always straight. The line of bore, also straight, is a line from the cartridge through the barrel to infinity.

The bullet's path, by comparison, is a down-curving line which begins at the gun's muzzle and falls lower the farther it goes. If a gun's sights were aligned to be parallel with the bore line, obviously they never would intersect the path of the bullet. The hunter would have to guess how far above his target to hold, and hope that the bullet might connect. Consistent hitting by this method, at least beyond extremely short range, would be impossible. To lessen this problem, sights are adjusted so that the line of sight intersects the bore line, rather than being parallel to it. As a result, the gun muzzle points slightly uphill when the sights are aligned on the target, and the bullet's path goes through the line of sight a short distance ahead of the gun, travels in a



curved line above it, and then drops through it at whatever distance the gun is zeroed in for. The bullet's path never rises above the line of bore.

When we have our rifle placing its bullets in the target after we have made the correct sight adjustments, the line of sight is still on the bullseye, but the line of bore now points above the center of the target. The line of bore starts the bullet toward its tar-



SPITZER BULLETS such as first three normally are driven at high speed, which gives flat trajectory over long range. Round nose bullet, right, is best for short range brush shots.

get with just enough angle above the line of sight to make up for the downward pull of gravity. Naturally, the farther out the target, the greater this angle will have to be, with a given velocity.

Published ballistic charts give data on trajectory from which we can calculate with fair accuracy our bullet's point of impact at various ranges, when zeroed at a certain distance. Or, if velocity of a particular load is known, along with certain factors such as the bullet's ballistic coefficient and sectional density, trajectory can be closely estimated by use of a Ballistic Calculator (sort of a slide rule) available from the Speer Bullet Company, Lewiston, Idaho.

However, the only way of positively determining the trajectory of a given load in a given rifle is through actual shooting. The usual way of doing this is to zero in the rifle (adjust the sights so the point of aim and point of bullet impact coincide) at some intermediate

range, such as 200 yards, and then, still holding in the center of the bullseye, fire groups at 50-yard intervals out to the maximum range at which you expect to use the load. (See chart for results with some specific cartridges.)

MRT vs. Maximum Ordinate

Another confusing factor about the bullet's path is what is called "mid-range trajectory." Many shooters believe this is where the bullet reaches its highest peak. If I can get a little technical for a moment, I would like to point out that the highest peak of flight is known as the "maximum ordinate." Instead of being at mid-range, which is nothing more than halfway to the target, the maximum ordinate usually takes place about two-thirds of the way to the target. When a rifle is shot in three inches high at 100 yards, for instance, it does not immediately begin its downward curve when it reaches the 100-yard mark. It will continue in a gradual upward flight for some distance.

As an example, with the 150-grain bullet in the 30-06 sighted in three inches high at 100 yards, maximum ordinate will be about 4½ inches at 160 yards. The bullet will at that point start its downward flight and pass back through the line of sight somewhere around 225 yards. This gives you a rifle sighted in roughly an inch high at 50 yards, three inches at 100 yards, four at 150 yards, two inches high at 200 yards and right on the button at 225 plus. These figures are not exact, but approximate the bullet's trajectory over normal hunting ranges. The faster the bullet and the more stabilized it is, the flatter the trajectory will be.

Trajectory is important to the hunter. He should learn all he can about his rifle's trajectory. A friend of mine missed two rested shots at a twelve-point buck because he didn't understand trajectory. He was under the impression that a 270 Winchester 130-grain bullet shot absolutely flat

for the first 300 yards. Today he knows better, but the buck's rack decorates the den of a fellow hunter.

No Time for Figures

When a big buck steps into a clearing across the valley, no hunter has time to drop down on one knee and make computations in the snow. At that moment his only concern is properly placing a bullet. To accomplish this, he should know two things—the distance and where his bullet will be at that distance. Since distance is hard to determine, the hunter cannot know exactly where to aim. However, most high powered rifles zeroed in 3 inches high at 100 yards will take care of any shot on big game up to 250 yards by just holding on the chest area, as the size of the target exceeds the vertical spread of the bullets over this distance. The slower velocity bullets might not quite reach this long distance, but any with a muzzle velocity of 2500 fps or more will.

Many hunters insist they want their rifles shot in for 100 yards. They claim they can hold over for long shots. I have always disliked holding high. In my experience, this is a tough thing



SCOPES SUCH AS the variable power hunting type, left, medium power varmint, center, and high power target model all make it easy to zero in rifle to take best advantage of load's trajectory.

Trajectory Chart for Some Popular High Power Rifles

Caliber	Bullet Weight	50 Yds.	100 Yds.	Path of Bullet 150 Yds.	200 Yds.	250 Yds.
220 Swift	48	+0.5	+1.25	+1.75	+1.25	-2.5
257 Roberts	100	+1	+2.25	+2.50	+1.5	-2
270 Winchester	130	+0.75	+2.25	+2.50	+1.5	-0.5
264 Magnum	140	+0.75	+2.25	+2.50	+2	On target
280 Remington	150	+1.25	+2.5	+3	+1.5	-1
7 mm. Magnum	150	+0.75	+1.75	+2.25	+1.5	On target
30-30	170	+1.5	+3	+2.25	-2	-10
32 Special	170	+1.5	+3	+2.25	-2	-10
30-06	150	+1	+3	+2.5	+1.5	-1.25
30-06	180	+1.25	+3	+2.75	+1.75	-2.5
30-06	220	+1.5	+3	+2	-1.25	-5
308 Winchester		Approximately same as bullets for 30-06				
300 Savage		Approximately same as bullets for 30-06				
35 Remington	200	+1.5	+3	+1.75	-3	-13

These figures are approximate, and will vary slightly according to actual height of sights above bore, true velocity, bullet shape, etc.

to figure. At 200 yards or more I can't buy the idea that anyone, regardless of eyesight, can hold that precisely. What might look like several inches at 250 yards might actually be a foot or more. It's best to zero in so you can hold directly on the area you intend to hit. This is why I suggest having the rifle sighted in for 250 yards. Even the comparatively slow 35 Remington 200-grain bullet or 30-30 and 32 Special 170-grain bullets will be only a foot or so low at 250 yards when sighted in 3 inches high at 100.

Most big game animals are killed at less than 250 yards, but you won't

be at any disadvantage by having your rifle sighted in for that distance. I killed one buck that was 240 yards away, and I can tell you that it's a powerful long run down through a woods. All I could see was the head and neck through a 10X scope, but because I knew the cartridge's trajectory from much shooting, I was able to put my shot almost exactly where I wanted it.

Trajectory can be complex and confusing, but your understanding of what you and your rifle can do will practically guarantee success at any distance.

First 1967 Triple Trophy Winner

A McKean County hunter, Robert McKeirnan, of P. O. Box 76, Crosby, was the first to apply for the Pennsylvania Game Commission's 1967 Triple Trophy Award, available to hunters who bag a wild turkey, a black bear and an antlered white-tailed deer during the same hunting license year. McKeirnan took all three of his trophies in McKean County.

Police Control of Firearms

Chicago Police Superintendent Orlando W. Wilson, in recent testimony before the Illinois House, admitted that the Chicago Police Department had issued a grand total of 11 gun permits in the past year under terms of a Chicago ordinance.

In New York City an applicant for a handgun permit must pay \$20. This started out as a 50-cent fee. If the application is turned down, the \$20 fee is not returned. All fees go into the police retirement fund.

Book Review . . .

New Hunting Book by O'Connor

No gun writer in the country is better known than Jack O'Connor—and understandably so, for no one around writes better about guns and hunting and few, if any, have more experience to draw on. His latest book, *The Art of Hunting Big Game in North America*, is a fine example of his work. It discusses the best methods of hunting in woods, mountains and plains, then goes into detail on hunting many of the continent's big game species such as white-tailed and mule deer, elk, moose, bear, antelope and caribou. This part is jammed with information that will help make a long-dreamed of trip successful. Also covered are suitable rifles and loads, outfitting, trophy judging (an excellent section), and care of meat. A highly useful and readable book. (Knopf, 501 Madison Avenue, New York City 22, 1967. 404 pp., \$8.95.)

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fire.**

**Be considerate in
the outdoors.**

**Be conservation-
minded.**



JOHN F. CLARK —

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MARCH, 1968

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**CHUCK
RIPPER**

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COVER PAINTING BY CHUCK RIPPER

Despite its high population, Pennsylvania is one of the top bear states in the country, with incomplete returns showing over 525 bagged during the past season. The biggest harvest was made in 1930, when 707 were taken.

Bears normally seek winter shelter during early December, though they are not true hibernators. The cubs, often twins, are usually born in January. They weigh about one-half pound at birth. To these youngsters their first spring, as shown on this month's cover, is doubtless the most pleasant time of their lives.

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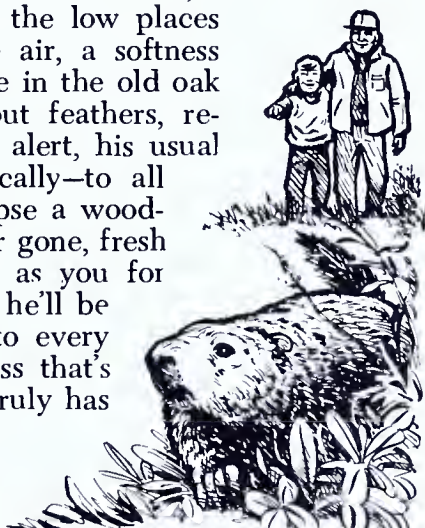
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A Month of Another Color

MARCH, for all practical purposes, really starts the new year. At least as far as a newcomer to outdoor pursuits goes. Sure, the veteran shot-gunner could be found haunting the thick grouse covers in early January—grouse have a magic about them that makes otherwise rational citizens kick over the traces and do things that are simply beyond the ken of the uninitiated. And similar numbers of cottontail chousers were stomping the frozen swamps back then, too, lured on by the utter simplicity of a hunt for what has to be our commonest—and therefore in some ways our greatest—game animal. And of course, there were also the crow-busters. Both the white-swathed scatter-gunners who, aided by electronics, often burn up enough shells to keep their barrels at hand-blistering temperatures when the mercury stands at zero, and the sniper specialists who will spend hours searching for one safe shot at a quarter-mile, and then bed down with their bull-barreled, set-trigger, target-scoped wildcat rifles and, with the cold efficiency of a true professional, explode that target into a scattering of black feathers on white snow.

But almost invariably these people are veteran outdoorsmen. Through the years they've found out that the game is worth the discomforts which accompany the season. Most newcomers haven't had time to learn this. If you take them afield in January, all they get is cold. But March—that's a month of another color. There's more to meet the eye than black pines and white snow. You can usually forget the old down parka and insulated underwear. Sure, the weather can be chilly, even miserable at times, but you know winter's fighting a losing battle, the end isn't impossible to foretell.

Now is the time to really introduce that youngster—or maybe a young new wife—to the world of nature. This is the month when spring begins, when the iron-hardness underfoot softens, when ice-hidden springs come alive and the first tentative signs of green are visible on hillsides that catch the sun. A tramp through the woods still requires rubber-bottom boots, but the breezes will soon dry up the snow water that makes the low places soggy. Already there's a different feel in the air, a softness underneath the wind's chill. That crow you see in the old oak isn't hunched down tight within his fluffed-out feathers, reluctant to fly, but rather sleek and shiny and alert, his usual cocky self, ready to give battle—at least vocally—to all invaders of his domain. Or maybe you'll glimpse a woodchuck, lean now, with last September's fat layer gone, fresh out of his months'-long sleep and as anxious as you for spring. Chances are, if you do see Ol' Marmy he'll be sniffing along a fencerow poking his nose into every hole, searching hopefully for a mate. Doubtless that's as good a sign as any that another life cycle truly has started, that the new year actually has arrived. But you can't really tell this, cooped up in a city. So get outdoors. Now.—*Bob Bell*





*A Yesteryear Look at Penn's Wilderness and
the Exciting Trade Era That Featured . . .*

THE EARLY AMERICAN fur trade symbolized a strange compound made up of honest men, scheming rogues, misfortunes, rich profits, fierce competition, incredible deception, Indian threats, bold risks and untold hardships. . . . And Pennsylvania played a long-lasting key role in that stirring wilderness pageant of long ago.

What colorful frontier times—when furbearers actually were so plentiful in Penn's Woods that, over a span of decades prior to 1800, Pennsylvania's raw fur exports were almost literally incredible. In fact, for the period indicated, the furs shipped out of Pennsylvania eclipsed the pelt cargoes of New York and Newfoundland combined!

Even William Penn was well aware of the then unclaimed fortune in animal skins when, at an early date, he recorded discovery of “. . . numerous beaver, deer, raccoon, panther, wildcat, bear, otter, wolf, fisher, fox, mink, muskrat . . . and elk as large as a small ox. . . .”

Fiery rivalry among fur traders was perhaps exceeded only by their uncounted acts of brazen rascality; bitter fights and resulting loss of life occurred regularly. The plenty of the land bred a peculiar kind of wicked greed and viciousness.

Pennsylvanians aggressively competed with French fur traders. Through the years the eager seekers of pelts worked their way up and down every



FRONTIER FURS

By Wilbert Nathan Savage

major river in the state—from the Delaware to the Allegheny. During the course of cornering an Indian-owned fur bonanza they would distribute, with miserly caution, such necessities and trifles as axes, gunpowder, lead, kettles, calico, rum, bells, combs, knives, whistles, looking glasses, “. . . and other gee-gaws as worthless and useless as common stones.” They returned—usually in an atmosphere of boisterous and triumphant revelry—with assorted pelts, “. . . elegant and silky and valuable. . . .”

As fur traders made their way through the heavily forested wilds of Pennsylvania, they not only dealt with professional white trappers and the various tribes of Indians, but also with toiling settlers engaged in farming. For, by reason of pressing need and willingness to meet stern responsibilities, practically every farmer was to some degree a trapper. Indeed, revenue from a winter's catch of furs often surpassed the year's value of all harvested crops—even if large mink pelts did happen to be going at only 30 cents each and deer skins at half a dollar. For this was a period when common labor could be had for 33 cents a day and a skilled workman for 50 cents!

In 1804, fur prices crept up to a point where they were generally considered good to excellent. Thomas Jefferson, the country's third President, had been in office for about three years, and seller and buyer alike in the raw fur trade believed he had brought prosperity to their “profession.” A large otter

was worth a fabulous \$4, and a bear skin would easily bring \$3.50. Good beaver pelts were up in the \$3 range, and the farmer who had outwitted a red fox could put a dollar price tag on his pelt. (Fur traders regarded farmers as the hardest men to deal with, "... all of them being uncannily alert and often making one wince with their exacting demands for staple items or cash for every pelt on their stretching boards. . . .")

Bounty Hunters

Bounty also was paid on various wild creatures for many decades, and it was not uncommon for a farmer to forsake his land to become a full-time bounty hunter. Naturally, in the prime season he also received, in addition to the bounty, the going pelt rate for all those wild creatures carrying a man-fixed price on their heads. Here, too, was spirited competition. Professional hunters and trappers were always abroad in the wilderness, and the blacksmith, merchant, miller or other tradesman generally was able to arrange pursuit of the bounty possibilities.

Wolves were plentiful in Pennsylvania throughout many early decades, and each one—young or old—had a bounty on its scalp. An idea of their abundance may be gathered from H. W. Shoemaker's *Legends of the Susquehanna*. Shoemaker tells of a man named Richard Aubier who estimated the number of wolves in a night-traveling pack to run as high as 200 animals. Aubier owned a water-powered sawmill near Frenchville, and his daughter, Elizabeth, told of standing beside the mill, lantern in hand, listening to wolves on the opposite side of the shadowy Susquehanna "... howling like the Devil's messengers. . . ."

The earliest known case of a bounty being paid on wolves in Pennsylvania occurred before 1682, when 40 guilders for each wolf was paid through the Swedish Court at Upland (Chester).

The Court also ordered that "fifty-two wolf pits or trap houses" be built.

By 1683, after the arrival of William Penn, 10 shillings in bounty funds were paid for each male wolf, 15 for each female. Indians who brought in wolves for the bounty received five shillings and were allowed to keep the pelt as an extra reward. Wolf hides varied greatly in value, but generally were worth "a little more than a red fox skin."

Despite generous bounties calculated to reduce the wolf population, their numbers steadily increased. They became so destructive that the slaughter of an entire flock of sheep in a single night was not unusual. Sheep raising in the Philadelphia area bordered on the impossible. Finally, a special tax had to be levied to finance wolf bounties. This included a three pence poll tax.

With the killing of sheep and other livestock continuing at an alarming rate after 1700, an aroused citizenry demanded action—and got it. A law was passed in 1705 "... providing that anyone who became a professional wolf killer by agreeing to devote at least three days a week to hunting and who registered with the county court would be paid a bounty of 25 shillings per wolf head."

Day of the Wolf

All *Homo sapiens* contrivances notwithstanding, the day of the wolf was just beginning in the vast and sparsely settled land parcel that made up Penn's Woods. For in western and northern sections the crafty animal was setting new records in slaughter among flocks and herds — a havoc period that was destined to continue until after 1840. Wolves were particularly numerous in the Wyoming Valley. There, at night, it was necessary to drive all sheep and cattle into high enclosures, around which fires were kindled. In his *History of Hanover Township and Wyoming Valley*, Henry Plum tells of wolves attacking men.

During 1840, the Pennsylvania General Assembly passed "An Act to Encourage more Effectively the Destruction of Wolves and Panthers in the Counties of Luzerne, Wayne, Susquehanna, Pike, Monroe, Jefferson, McKean, Tioga, Potter, and Bradford."

The bounty on an adult wolf was set at \$25. The mountain lion (then commonly called panther) premium also was boosted to a new high, and prospects of these liberal payments immediately spelled tough times for wolves and "painters." Wolf drives were organized, sometimes surrounding half a township. By 1860 the wolf had practically disappeared from Keystone territory. Even the few cunning survivors were given little rest. They were shot at by miners and ministers, farmers and doctors, blacksmiths and millers, woodsmen and harness makers—to say nothing of hunters whose business it was to search them out. The last bounties paid for wolf scalps were: Warren County, 1866; McKean, 1868; Elk, 1877; Clearfield, 1881; Forest, 1884; Tioga, 1886; Potter, 1890.

Panthers Plentiful

Mountain lions also continued to be numerous in Pennsylvania well into the 19th Century. They reportedly had a natural fear of dogs and they seldom attacked humans, but they were exceedingly strong and killed large quantities of livestock. In 1802, the bounty on a full-grown mountain lion was \$8; the pelt was worth \$4, the same as a large otter skin. In 1819, the panther bounty was increased to \$12; in 1840, as mentioned earlier, the panther premium skyrocketed to \$25—more than a skilled worker could earn in a month. And if the hunt yielded only a panther kitten, the pay still was good, a neat \$5 in quick cash (going to \$9 the following year). Of course, these incentives brought the same peril to Pennsylvania's big feline as they did to the vanishing wolves. Even the price of good panther dogs went up noticeably. In less than a

decade panthers could be found only in the most rugged mountain hideaways. The last bounties paid for panther scalps included these counties: Forest, 1848; Cameron, 1851; Elk, 1857; McKean, 1859; Warren, 1863.

Very few panther hides went out of Pennsylvania as exports. According to reliable records, just one panther pelt was exported in 1700, and a high of 23 in 1765. For the most part, panther hides were carefully tanned with the hair on and used as rugs that helped "dress up" the rough floors of pioneer log cabins. Any frontiersman lucky enough to bag a panther generally regarded the animal as a trophy worthy of preservation for his grandchildren's zoological pondering. And just as important, details of the powerful cat's last moments would have to be recounted many times before the crackling fireplace on long winter evenings. Certainly the tale was bound to gain much in stature if the furred pelt—perhaps 8 or 9 feet in length—were a part of handily observed interior furnishings!

A LARGE number of beaver were exported to England, made into beaver hats and returned to Pennsylvania.





MOUNTAIN LIONS, often called "painters" in olden days, were numerous in the state.

Wolf pelts also caught on rather slowly as export items. Although the animals roamed the wilderness in great numbers and were killed by the thousands, only 483 wolf pelts were exported from Pennsylvania in 1700. By 1710, the number had dropped to 152. One sagacious old trapper declared that wolf pelts were slow to sell because "... a damp wolf hide smells like a wet old dog, multiplied by ten or so!"

This judgment, however, must have had a flaw in it, for by the late 1760s the wolf pelt had reached a new peak of popularity abroad. (This was said by some contemporaries to be due to improved methods of tanning and removing musky odors from the skins.) In 1770, a record 6581 wolf pelts became export merchandise, and almost all other furs moved exceedingly well. Even the tame feline had to scratch for a haven of safety that year, for Pennsylvania and other continental colonies supplied England with exactly 13,625 house cat pelts! Indeed, this figure represented more than half the number of otter pelts exported during the same period.

(As a sidelight oddity it seems appropriate here to mention that in 1700 Pennsylvania and her sister colo-

nies exported 658 woodchuck skins, 1178 mole hides, 186 skunk pelts, and, most astonishing of all—90,000 squirrel tails!)

Although English imports of Pennsylvania furs amounted over the years to many thousands of pounds sterling, a startling number of the beaver hides that arrived in England from Pennsylvania eventually came back to Penn's Woods in the form of handsome beaver hats. In fact, in a single year—with 1760 recorded as a representative example — Pennsylvanians imported from England beaver hats whose value was 5544 pounds sterling. Catching the beaver was one thing, but fashioning its pelt into a practical and reasonably stylish hat was another facet of the complex fur exchange.

Traps of early days were rough affairs—very often nothing more than crude log pens equipped with lid-closing trigger devices. Deadfalls were extensively used, as were snares. The use of firearms provided a fairly sure method of taking furbearers when they were encountered, but the bullet always damaged the pelt to some degree. Also, many furred creatures were strictly nocturnal and some sort of catching scheme was a virtual must for the fur seeker—unless he could track down the animal. The disadvantages of this method: a "tracking" snow was necessary; sometimes a long walk for digging tools had to be made; rocky terrain may prevent excavation; the animal may dodge all swinging clubs and make a clean-as-a-whistle escape.

Few Steel Traps

Bear pens were a common sight throughout the wilderness, and the "wolf houses" referred to earlier actually were pole pens fitted with a baited trigger that would drop a barrier into the opening left for the wolf's entrance. Here, indeed, necessity was the mother of invention, for steel traps that were practical in design and of a cost that men of little means could

afford did not come into even moderately widespread use until after 1820.

Before 1865, furs that traders made ready for export shipment very often were bound into packs weighing as near to 80 pounds as practicable. About 500 muskrat pelts (spring caught) were required to make such a pack. Eight large and four small bear skins added up to about 80 pounds, as did 40 large and 20 small beaver, or 32 otter skins. (The otter has a very dense and heavy pelt.) With red fox skins, 52 to 54 generally made up an 80-pound pack. Of course, all weights refer to dried or "cured" skins. Fisher, wolf, skunk, and certain delicate skins—such as mink and marten—usually were made up in separate, and often smaller, packs.

At one time the fisher was common in Pennsylvania, and the chiefs of certain Indian tribes trimmed their war costumes with fisher fur. Particularly fond of this elegant adornment was Teedyuscung, last of the great chiefs of the Leni-Lenape tribe.

When fur traders settled down to the hammer-and-tongs details of doing business with Penn's Woods Indians, a festive ceremony of some sort usually preceded the actual trading. The smoking of the peace pipe was a must, and a sumptuous feast was a significant and traditional part of the pre-barter ritual — complete with merrymaking and exhausting feats-of-strength contests.

Tricks of the Trade

There was hardly a bartering trick ever invented that the early time wilderness fur trader did not have at ready command. According to his ballyhoo he had for the Indians special merchandise laden with pure magic that was able to conquer all enemies and soothe the Great Spirit. Of course, he had special firewater too. That is why a special price usually had to be charged for the "special" commodities—like 20 beaver pelts for a gun worth but eight skins;

as many as four to eight beaver hides for a bottle of rum worth as little as 40 cents, etc. Little wonder that a few traders prospered to the point of becoming "pelt barons," owning up to 100 pack mules and employing 25 men!

Of course, the steady practice of shameless deception by a treacherous trader sometimes got him into grim circumstances. For quite often the Indian, suspecting that he had been purposely cheated, trailed the trader through the wild countryside until the right moment came to lift his scalp and perhaps reclaim the ill-gotten furs.

After doing business with such a trader over a period of years—and learning from him the honorless cun-



OCCASIONALLY, an Indian who believed he had been cheated, trailed the fur trader until the right moment to lift his scalp.

ning necessary to execute fraud and chicanery — many red men finally became wise. In increasing numbers they refused to do business as a group, stubbornly demanding that their furs be handled on an individual basis. They learned of some of the standard rates of exchange and insisted on fair pelt appraisals. An actual example of what was regarded as a fair trading plan in the 1700s follows:

One beaver skin would buy one-



A SUMPTUOUS FEAST often preceded the actual transactions between frontier fur traders and the various tribes of Penn's Woods.

half pound of beads, a kettle, a pound of shot, five pounds of sugar, one pound of tobacco, two awls, a dozen buttons, 20 fishhooks, 20 flints, or eight bells. A good blanket could be had for six beaver skins (or the equivalent value in other furs), but a musket required 12 skins. A pistol, however, meant the surrender of only four prime beaver pelts.

Certainly it seems obvious that the Indian possessed a more profound sense of honesty than most fur traders. In one instance an Indian took a catch of furs to the headquarters of a trader who operated on a small scale. Finding no one at home and the place locked, the red man broke in, took the merchandise he needed and left in exchange what he considered a fair amount of furs. The next year he stopped to ask whether he had left sufficient furs for the items he had taken. He had, and enough extra to pay for the broken lock! This took place "... in the Susquehanna Country. . . ."

Wild and savage as he was before the coming of the white man, the In-

dian had a long-established strict code of honor that involved pride, integrity and self-respect—and he lived by it. One is tempted to wonder if the formula for modern man's improvement might to a degree rest in honest application of even a few of the remnants of that code — which was truly an *American original*.

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Outwitting the Metal Monsters

By Eleanor Pickard

NESTLED among Greater Northeast Philadelphia's booming industrial parks and mushrooming housing developments, there exist many scattered acres of land harboring abundant wildlife. Pheasants, cottontails, squirrels, possums, woodchucks, raccoons, songbirds of all species, and even an occasional fox or deer can be found throughout these unhunted paradises.

There is one such paradise, or rather, ex-paradise, not far from my home. Only a few short years ago, this land echoed with the sad song of the dove and the cackling pheasant's call. Today, as the wheels of progress grind rapidly forward, only a few scant acres remain. With the roar of the bulldozers filling their ears, all wildlife in the area escaped to the haven of these few remaining acres. Here, the trees and fields were as yet untouched by man's metal monsters.

My husband, Fur, and I, who have always been frequent visitors to these woods, began to notice a heavy increase in the wildlife population. At our approach, the woods came alive with sound. Squirrels chattered incessantly; blue jays screamed insults from overhead. Every few steps would send a cottontail streaking for a thicket. It became a common practice to flush as many as twenty pheasants at a time from one small corner of a field.

One morning, on a stretch of highway measuring only a single block in length, I counted four rabbits and one possum—all of them ground into the asphalt. That same day, I telephoned our county's Game Protector and asked him to send an application for a rabbit trapper's permit. Several days later the permit arrived along with the rabbit traps.

When you live in a second floor



MRS. PICKARD found that releasing the small animals was the most enjoyable part of the program.

apartment in a big city like Philadelphia, a pile of rabbit traps stacked just outside your door raises many eyebrows, as well as many questions. Each neighbor came in turn (on the pretext of borrowing a cup of sugar, etc.) to find out what the boxes were for. When told that the boxes would be used to trap rabbits, a horrified look invariably crept into their eyes as they asked in trembling voices if we were going to eat the poor animals. We told them, in as calm a voice as possible, that we merely intended to transfer the animals to another home.

My husband and I both enjoy hunt-

ing, and we would rather see a rabbit go home in a hunter's game pouch than become part of a highway. Despite our neighbors' qualms, we set about our plans to beat the bulldozers to the "game," and placed the traps.

The rising sun was filling the sky with a rosy glow as we brought our car to a stop the next morning. Snow had fallen the night before, and the white wonderland beckoned to us invitingly. Crows heralded our approach as we made our way through the snow-clad trees. They rose in a big, black cloud from their roosting place and turned their wings against the cold morning breeze. Everywhere the snow had been trampled by rabbits romping at their midnight games. Pheasants, possums and squirrels had also left their trails in the fresh, white snow.

THE POSSUM found in one trap had to be pulled out by his tail. He apparently thought he'd found a home!



The door to the first trap was down, and I hurried in anticipation. Carefully, I picked up the box and peered inside. Two big eyes blinked back at me and beneath them was the toothiest grin I had ever seen! Further examination revealed a quivering pink nose and two small, rounded ears tipped with pink. A possum! As though disgusted at having her slumber disturbed, the possum squirmed around and, depositing her posterior in a most unladylike fashion, went promptly back to sleep!

I called to Fur, who had gone on to check the second trap. He signaled that he, too, had had success. This time, the trap held a cottontail. Huddling in the furthestmost corner of the box, the rabbit turned his big, woeful eyes upon us as though to ask what his fate might be. We carried the animals to the car and settled them on the back seat, then trudged back through the woods to check the second set of traps.

First Trap Empty

The first was empty, although the door had been tripped and most of the bait eaten. The unknown culprit must have done his raiding before the storm, for the snow was undisturbed. The second trap, however, contained a very angry gray squirrel. The bushy-tail poked his head through the hole he had enlarged in the wire mesh and chirred at us threateningly. Then he did something I have never heard a squirrel do before—he began to cry! The sound was almost identical to the cry of a human infant. We took our sobbing friend and deposited him on the back seat of the car beside his new cage-mates.

The Game Lands where we intended to free the animals were about an hour's drive from our home. The trip proved to be quite an experience. The whole way, the rabbit thumped from one end of the box to the other. The squirrel never stopped crying, and the possum insisted on trying to

hang upside-down in a box that was too small for her anyway.

Releasing the animals was something else again. The squirrel was off and running the moment his feet touched the ground, and the rabbit made for the nearest patch of sticker-bushes. Then we opened the door to the possum's box, camera poised and ready. The seconds ticked away. No possum. She had decided, it seemed, that this was her new home and she was not going to budge one inch. We finally had to pull her out by the tail. She waddled away, turning once to look back and shake herself, dog fashion, as though to say "good riddance." She climbed the nearest tree, putting as much of it as she could between us. We left her there and headed for home.

Throughout the following weeks, we trapped a number of cottontails, squirrels and possums, all of which were released on Game Lands. We were sad when the day our permit expired finally arrived. It seemed odd not to have a chirring squirrel or a thumping rabbit in the back of the car.

Now, some months later, the woods we loved so well are almost gone. By



ONCE OUT OF the trap, the possum put as much of the nearest tree between him and his friends as possible.

the time the first snowflake falls next winter, houses will be crowded together where tall trees once stood. What will become of the animals that eluded our traps? Perhaps, with luck, they will escape the grinding jaws of the metal monsters. We sorely hope so.

National Wildlife Week Theme

"Learn to Live With Nature" is the slogan for National Wildlife Week 1968, March 17-23. The observance is intended to focus attention on the importance of conservation education as a means for making the best use of all natural resources.

During Wildlife Week citizens in every part of the nation are reminded that it is necessary to learn how to stop pollution and waste, keep open spaces unspoiled, and enjoy the benefits of outdoor recreation without ruining the out-of-doors in the process.

Stay-at-Homes

During the summer the rooster pheasant, his harem, with their chicks, remain in a relatively small area—usually less than 80 acres.

When You Inherit a Purdey

By George Bird Evans

Photos by Jack Gates



THERE ARE three ways of coming by a Purdey. First, if you have about \$3000 to spare you can have a fitting, either by Purdey's representative in this country or at James Purdey & Sons, Ltd., at Audley House in London, and have one built for you. Second, you can buy a used Purdey from Abercrombie & Fitch or, with luck, directly from an estate. Even as used guns they command high prices. Or, third, if you are as fortunate as I was, you may inherit a Purdey. It was a fine old shooting friend who paid me that compliment. In either of the last two ways there will be adjustments to be made.

I've dreamed some strange and wonderful dreams about shooting, but that I would some day own a Purdey was not one of them. This Purdey, with a second set of barrels, came to me from the well-known Bryn Mawr sportsman, Dr. Charles C. Norris, author of *Eastern Upland Shooting*.*

It came complete with a brass-cornered, leather-covered oak case that weighs 26 pounds without the gun. The case is lined with red billiard cloth and compartmented for both pairs of barrels, fore-end, and stock. This is so exact that a gun with the slightest variation in dimensions would not fit. There are also compartments for cleaning fittings and tools. One of these tools is a spanner for installing striker pins and springs in case of a breakdown in the field. The spare pins and springs are kept in a horn container. There are nickel-plated dummy cartridges with hard rubber centers for dry firing and for testing trigger pull. Mounted on the underside of the case lid are two cards. One gives data regarding powder and shot loads used in patterning the gun, length of cartridge chambers and bore. The other is an engraved Purdey letterhead. It seemed like a formal invitation to use this magnificent gun and

I almost expected R.S.V.P. in one corner.

Built in 1915, the gun is a 12-gauge weighing 6 pounds 7 ounces. It has an extra pair of 26-inch barrels. The No. 1 pair is bored 72% and 76%, the No. 2 pair, 54% and 71%. The engraving on the sidelocks and action is of the classic Purdey rose pattern, identical with that on the standard Purdey made today. The gun has side wings at the breech and an extra locking member above the ejectors — what Purdey calls "third grip and clips to action." It has a beautifully figured French walnut stock with a straight grip.

Stock Changes

I was taller than Dr. Norris, had longer neck, longer arms, wider shoulders and carried less weight. This required more drop, more length and more cast-off. I made these changes myself.

It was Dr. Norris who had sent me a method for analyzing gun fit when I was in trouble with my old Fox. It proved the best thing I have found. It tells you whether your gun shoots where you look, and if not, why not. In this method you shoot a dozen pattern sheets exactly 16 yards from your eyes, which, when shooting, are approximately over your forward foot. The gun must be mounted naturally and fired at a center mark as though at a straightaway bird, coming up and firing as the gun coincides with your vision, not aimed as with a rifle. Error in stock fit will be magnified sixteen times on the pattern sheet. Deviation will not show up the same on every sheet because of variation in mounting, but if something wrong is happening consistently you will get a fair picture of the cause. Examples:

Shooting 4 inches below center: 4/16" too much drop; 4 inches above center: 4/16" too little drop; 4 inches left of center: need of 4/16" cast-off (if the shooter is right-handed); 4 inches right of center: 4/16" too much cast-off.

*J. B. Lippincott Co., Philadelphia, 1946.



THE PROOF of any gun is in the field—and here is where the Purdey, and a favorite dog, Shadows—produce, as evidenced by these woodcock.

If the deviation is, say, one inch off-center instead of four inches, the correction on the stock should be very close to 1/16" whichever way indicated. All this assumes that the gun is mounted correctly.

Cast-off is measured at the heel and is the deviation from the center line of the rib. British guns usually have some cast-off, and most men would benefit from a small degree. A man with broad shoulders often looks down the side of the rib when using a gun without cast-off and shoots to the left if he is right-handed. Straightaway misses are often corrected by the proper amount of cast-off.

Most men know how to measure the drop of a stock with the gun lying inverted on a flat surface. The muzzle end should rest on the bead, for the line of pointing is through the front bead. In the test, the dimension for drop must be taken at *cheek point*. Drop at heel involves comfort in mounting but does little to affect the throw of the pattern; drop at comb is measured at the forward end and is not where your cheek makes contact with the stock. Drop at cheek point is the most critical and the most neglected dimension of stock fit. It

varies with each shooter, governs the elevation of his shooting eye and affects every shot he makes.

Smear your cheek with shaving cream, then mount your gun and you will see the area on the comb where your cheek is pressed. Drop at cheek point is measured on the comb in the middle of this segment. The conventional slanting comb requires that the cheek make contact at exactly the same place each time, with any variation changing the elevation of the eye and the placement of the pattern. Pushing the cheek forward results in shooting high. Altering the stock length alters the cheek point, which is why some guns shoot better if the stock is shortened or lengthened. A Monte Carlo stock, which most shooters know at least from pictures, has a uniform drop all the way along the comb.

Normally, a gunsmith could have achieved the additional drop and cast-off by bending the stock under pressure with hot oil. But the age of this gun made this inadvisable. The walnut in Purdey stocks is at least eleven years old when the stock is made. The added years between 1915 and 1961 gave me a very old piece of wood and it seemed less risky to shape it than bend it.

Gains Cast-Off

Beginning with coarse sandpaper and finishing with fine, I worked the comb down to the drop I wanted. The Purdey stock had ample thickness for me to achieve the cast-off by working down the face side. The additional length was gained by adding a recoil pad, after first amputating a short section of the butt at an angle to provide the proper pitch.

When the stock tested to my satisfaction I finished it with twenty-two coats of GB Linspeed Oil, rubbing it down after each coat with Behr-Manning 400A Speed-Wet Durite Paper and water. It brought the old wood to glowing life.

Before I could shoot the Purdey I was confronted with other alterations. Like most London guns, Purdey's standard game guns are chambered for the British 2½" cartridge. They also build a slightly heavier gun chambered for our 2¾" shells. My Purdey had been chambered for 2⅝" shells, the standard 12-gauge shell in the U. S. when it was built. Rather than have the chambers altered, Dr. Norris ordered the short shells in case lots. I shoot different loads for woodcock, grouse and pheasants, and lengthening the shell chambers to 2¾" seemed more practical for me. I located a reliable gunsmith equipped to do the job.

The British gunner evidently likes his gun to throw its patterns high—a sort of built-in lead on rising birds or incoming driven birds. For my kind of shooting, the gun must shoot where I look, and so I had another alteration. The built-in rise on the Purdey was achieved with a rib that pitched low to the muzzle, with a small metal bead set below the tops of the barrels. The line of the barrels, or line of fire, was on a rising angle as compared with the line of vision from the shooter's eye through the bead, throwing the pattern ten or twelve inches high at 40 yards. This was regardless of stock fit.

Bead Superfluous?

There are men who insist that a bead on a shotgun is superfluous. I am not one of these. I point, not aim, but a large white bead is helpful in pointing, even though I am focused on the bird and merely sense the presence of the bead. By trial and error with a large mock-up bead made from modeling clay, I determined exactly how high the bead should be to make my line of vision through the bead coincide with the line of the barrels, or line of fire.

My gunsmith made the alterations on both pairs of barrels, carrying out my data to the thousandth of an inch.



AUTHOR'S PURDEY, with its case and accessories, as well as patient hunting companion, make a picture to stir any upland gunner.

An 11/64" white bead on a short metal platform gives the illusion of a bead on a normal rib when the gun is mounted. There is a special advantage to this when shooting in rain or snow. While the conventional rib requires frequent wiping to clear it, the raised bead is well above such accumulations of snow or water.

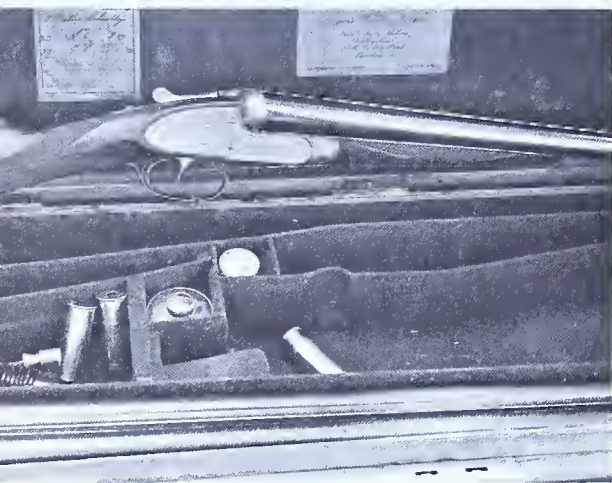
During the summer of these changes I was in correspondence with Purdey's. One of their letters opened by corroborating my gun number, when it was built, bore, barrel lengths, length of chambers and weight. It continued:

As you rightly say we build only one quality, so, therefore, there is no need for us to put on a grade name such as Royal or Crown.

Our gun in its standard state is finished with our fine rose pattern engraving but, of course, we do finish some of our guns with special engraving such as large scroll, game scenes, or deeply carved with gold inlays, etc., for which we naturally charge extra, but the actual gun itself is of one standard quality.

In the latter part of the last century we did for a short time build two or three qualities which were marked "B," "C" and "D" quality; very few were made for it was quickly found to be a bad policy and was stopped.

Regarding the marks on the lower surface of the left barrel, the W.H. were the initials of the barrel filer, William Hill, for it has always been a policy of this



CLOSE-UP of Purdey shows the beautiful lines traditional with this old English gunmaking firm. Note dummy cartridges used for dry-firing.

company that each individual craftsman should have the right to put his initials on the part of the gun he made and this is still carried out today. You should, if you examine your gun carefully, find the initials of the man who made the action, the ejector, etc., but you would have to strip the gun to find some of these. The letter "S" is no longer stamped on the barrels for this mark was introduced when steel barrels first came into use, to define them in the manufacturing stage from the Damascus iron, and though we gave up using Damascus tubes in the 1880's, this mark was kept until approximately 1920 — customs die hard!

The numbers 50047-48-49-50 are the actual numbers of each individual tube, for it enables us to check each tube back to any particular batch of steel and forging, for we keep perfect records of every tube used, and for which gun.

Thanking you, and assuring you of my personal attention at all times.

Yours sincerely,
(signed) Harry Lawrence
Managing Director

When you contemplate the effort involved in keeping such records of each gun built, you appreciate why the Purdey guns carry the price tag they do. Consider further the time and care spent on each gun by a succession of craftsmen, each working on an individual part with such pride that he wants to imprint it with his initials.

Purdey stocks are cut from the finest walnut, which comes in rough, unshaped blocks previously seasoned for six years. It is then seasoned for at least another five years in the Purdey factory. The stock is worked, hollowed and weighted according to the weight and balance of the particular gun being made.

At the completion of each stage in the building of the gun, the work is "viewed" by the factory manager. Once finished and assembled, the gun is again viewed, tested and shot at the shooting grounds. The final examination is at Audley House, where it is examined by the Managing Director before being passed for delivery to the customer.

The barrels of my Purdey have a display of proofmarks on the flats that look like a page of heraldic symbols. These are London Proof House marks, differing from those of the Birmingham Proof House.

The Provisional Proof mark is the letters GP with Lion Rampant, stamped on the barrels after the first test in the rough stage. The barrel is

proved without the action by inserting a charge ahead of a plug in the breech end; it is discharged through a touch hole like an old cannon. The Definitive Proof mark is the letters GP surmounted by a Crown, stamped on the finished barrels.

My barrels carry a Nitro Proof mark—the letters NP surmounted by an Arm Dexter, embowed, holding a Scimitar — also the words NITRO PROOF and the numeral $1\frac{1}{2}$, indicating the maximum charge of shot to be used.

The View Proof mark—the letter V surmounted by a Crown—appears on the barrels and on the action. I suspect it is the appearance of a Crown in the proofmarks that gives rise to the myth about a “Crown Grade Purdey.”

The numeral 12 indicates that the inside diameter of the barrel taken nine inches from the breech end is between .720" and .729". If this mark had been $\frac{12}{1}$ it would have indicated a bore between .730" and .740", rather on the “wide” side. The nominal gauge of the cartridge is indicated by $\frac{12}{6}$ within a diamond. The length of the cartridge is now usually included. The word CHOKE is stamped on each barrel to indicate that some degree of choke has been bored in each.

Rough on Woodcock

The first season I shot the Purdey, the 54%/71% pair of barrels proved effective on grouse but they were too rough on woodcock. I remember one cock that disintegrated like a clay target. I decided to have the very tight 72%/76% pair opened to 50%/60%. My gunsmith did this work in seven stages, with me making pattern sheets between each step. These “woodcock barrels” handle timberdoodles well with a 3-1-8 load in both barrels. When I expect grouse in woodcock cover I carry a 3-1 $\frac{1}{2}$ -8 load in the left barrel, tightening it to 70% for a long shot over the alder tops.

Purdeys are spring-loaded so that



GROUSE, as well as woodcock, are on the usual agenda when Evans goes afield in the golden autumn. This pair was taken with the set of open barrels.

they are “self-opening” when broken. This does not mean that they should be allowed to swing open on their own, which jolts the mechanism. Nor should they be slammed closed, letting the breech lever jar home. As the stock is brought up to the barrels, the breech lever should be stopped with the thumb and let gently into place. Handled intelligently, a Purdey almost never wears out.

James Purdey was building guns of this quality when George III was king. He had been apprenticed to the gun trade with Joseph Manton, and left Manton to become manager of the Forsyth Gun Company. In 1814 he started business on his own in Leicester Square. Twelve years later he took over Joseph Manton's premises in Oxford Street. His son James was apprenticed to him in 1843, the third James Purdey to be a gunmaker. When the father died in 1863, James



THE PURDEY'S SHORT barrels are handy in the thick cover where grouse normally are found.

any fine double. I am, in terms of age, the second generation to shoot my Purdey. It has had thousands of shells shot through it and yet, after fifty-three years, it is like new. If it receives the kind of care it has always had it will be capable of the same superb performance fifty years from now. It is almost impossible to wear out a gun of this type in the field.

When you inherit a gun you become a little bit of the man who loved it, for a shooter lives on in proportion to the manner in which his gun is used and enjoyed after he is gone. Even guns that end up on the used-gun market carry some aura of the men who shot them.

Dr. Norris would have been unable to sleep if he had gone to bed with his gun uncleared after a day afield, whether it had been fired or not. If he hadn't been certain that I would coddle it like a thing alive, I can say that he would never have made it possible for me to call this Purdey mine.

"the younger" carried on. To accommodate the expanding firm, Audley House at 57-58 South Audley Street, W.1, was built in 1881, the present home of Purdey's.

The care of a Purdey should be no different from the care you would give

Book Review . . .

New Book by Leonard Lee Rue, III

Pictorial Guide to the Mammals of North America is a new reference book by Leonard Lee Rue, III, an outstanding wildlife photographer whose work appears constantly in *GAME NEWS*. Every mammalian order in North America is touched upon in this book, if not exhaustively covered. Written primarily for the layman, it gives a general understanding of these species. Over 100 excellent photos illustrate the work, and there are numerous habitat maps and track charts. In addition to the chapters on individual mammals, quick-reference charts list the size, weight, habits, habitat, food, breeding, enemies and life span of each. (Thomas Y. Crowell Co., 201 Park Avenue South, New York, N. Y. 10003, 1967. 209 pp., \$7.95.)

Moose Grow Fast

Several days after it is born, a moose calf can outrun a man. It is believed to be the fastest growing animal in the world, gaining two pounds daily for the first month, four pounds daily thereafter.



BROTHER RAT

By Joseph B. C. White

Photos from the U. S. Department of Agriculture

NEXT TO MAN, the most destructive animal on the face of the earth is the common rat. Like man, it eats almost anything. Like man, it uses its food sources as fast as it can, and like man, its numbers grow at a great rate. Also like man, the rat breeds in all seasons, adapts to all climates and shows great individuality in many situations. It fights bravely when alone and appears to have the ability to organize in hordes when necessary.

Scientists now generally point to the Far East as the rat's point of origin. There is little mention of this creature in European literature or chronicles until after the Crusades; then, in a short time, they became abundant. They were serious pests before the end of the 13th Century.

Rats came to Europe in several ways—in ships, in grain wagons returning from battlegrounds of the Middle East, and by overland migration. They came in two forms, the brown rat (*Rattus norvegicus*) and the black rat (*Rattus rattus*). The brown species, though erroneously called the Norway rat, is the fellow who came from the Far East, probably China or Mongolia. His smaller black brother came into Europe first, mainly by ship from the Middle East. This black house rat was the one which caused such great damage in Europe in the plagues that swept that continent. The story of the Pied Piper of Hamelin was supposed to have taken place in about A.D. 1284, and he piped for the black rat.

By Shakespeare's time in the 1500s,



RATS DESTROY about four percent of the total grain in the United States each year, according to the Department of Agriculture.

the black rat was such a general nuisance that special days of prayer were set aside to ask for deliverance from its ravages. The plagues it spread in Europe are now considered by some historians to have had considerable effect on the outcome of major conflicts such as the Thirty Years' War. During this same period, hordes of the brown rat began to swarm overland across Europe and eventually wiped out most of the blacks. In fact, the black rat exists today only in those isolated spots where its brown cousin has not entered, and aboard ship, where the black's superior climbing ability allows it to hold its own.

The brown rat, now called the common rat, arrived in the United States about 1775. It took quite awhile for it to cross the continent, but the rodent got to California about 1869—not bad time considering the distance, rivers, mountains and desert in between, not to mention the generally slow pace of transportation in those days!

It should be made clear that reference in this article is confined to the two species named. The Eastern wood rat (*Neotoma floridana*) is in no way related to the imported species discussed here. It is native to Pennsyl-

vania and generally shuns civilization. Most laboratory white rats are albino forms of the Norway rat.

Today the rat is very much with us in America. There are an estimated 190 million of them in the U. S. About half of these live on farms. One rat it is estimated, can cost a farmer \$20 to \$25 a year in grain and property damage. About 25% of fires of undetermined origin are thought to be caused by rats.

Rats multiply fast. A pair can produce young every 22 days. According to Victor H. Cahalane in his *Mammals of North America*, a female only eight weeks old has been known to give birth to 11 young and rear them all. Normally, the breeding age is three months. Maximum life span is about three years. Theoretically, one pair of rats and their progeny could produce 350,000,000 offspring in three years. Of course, this does not happen. But man, hawks, owls, dogs, cats, and foxes cannot kill all the rats. The number regularly increases to a peak, then drops mysteriously, probably due to disease and starvation when numbers outstrip the available food supply. The high birth rate does, however, allow rapid recovery.

Bill: Two Billion

In a recent statement, the U. S. Department of Agriculture placed annual rat damage in our country as equal to the production of 100,000 average farms. This gnawing rodent has caused untold millions of dollars damage to property. (It has to gnaw, for its incisor teeth grow five or six inches a year.) Its gnawing short-circuits wiring and causes fires. Rats attack children in their beds, sometimes chewing off ears and noses of infants in slum areas. The total rat bill: a whopping \$2,000,000,000 per year in food products alone. Around the world, it is estimated that the rat has caused more deaths than all the wars in history. (It was the cause of 25,000,000 deaths during the Black Plague of Europe.)

The rat is a carrier of bubonic plague, trichinosis of swine and tuberculosis of poultry.

There is evidence that rats migrate in great numbers. Although the cause for such mass movements is not definitely known, presumably disease and food supply are basic reasons. One eye-witness from a Midwestern state testified that on a moonlit night in 1903 he saw a great army of these rodents moving through fields and across a road as far as he could see.

Poisons

During and after World War II, it was thought that a new poison, warfarin, had solved the rat problem. It caused internal bleeding and kept the blood from clotting. It is the basic ingredient in many commercial rodent poisons. But there were two major problems with it. First, a rat dying of this poison apparently was able to communicate the danger to others in the colony; second, only about 20% of the colony would accept the bait. It was effective, but did not come anywhere near the required lethal factor.

More recently, a new rat poison was developed by a commercial laboratory searching for a new arthritis drug. Fed in small doses under laboratory conditions, it was immediately fatal to rats but did not harm mice. Further tests showed the formula to be lethal to rats in small doses, even though massive doses proved harmless to dogs, cats and mice. The U. S. Wildlife Center at Denver confirmed these findings, and the result was a new eradicator that has worked with amazing effectiveness. It is now available commercially.

Because of its adaptability and rapid reproduction characteristics, the rat doubtless will always be a problem, especially in the underdeveloped



DIRT FLOOR makes it easy for rats to burrow into a poultry house.

countries of the world where effective rodent control is not feasible. For all his scientific success, man will continue to battle brother rat for years to come.

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On the Grow

The teeth of the rodent group of animals never stop growing.



by Rosato

The Waitin' Makes the Difference

By George R. Stahl

"BOY, DON'T fret so. You'll get your redbone someday. 'Sides things that come hard, you're not likely to forget, so the waitin' will just make you 'preciate it the more."

My granddad's words of wisdom, spoken so many years ago, flashed across my mind as I watched the young neighbor boy longingly sidle up to the muzzling beagle.

"You like Nell, don't you, Dennis?"

"Sure do. Gee, I wish I could have a huntin' dog for myself, but Dad says I got to wait a couple of years—'til I'm at least fourteen—an that's an awful long time yet."

"I guess it does seem that way, when you want one so bad. But you'll get your dog. And when you do, you'll appreciate it the more."

"Can you remember when you got your first dog, Zeb?" the young lad asked.

"Just like it was yesterday, an' it's more than thirty-five years now. I don't reckon I'll ever forget that day, either. I wanted a dog so bad the waitin' seemed to take forever."

"Tell me about it, Zeb." My young friend's eyes glowed in anticipation.

"Well, like I said, it was over thirty-five years ago, an I was a young fella around your age. In those days most all the boys went huntin' soon as they could. Rabbits were runnin' everywhere, an' a fella could bag his limit in the morning an be huntin' the mountain for squirrel by feedin' time. Man, what a scrumptious treat it was to sit down to a mess of fried rabbit or squirrel potpie. The wimmen in those days didn't turn up their noses at the sight of wild game. Nosirree, they were glad to have somethin' extra for the pot, and believe you me, they

knew how to fix it so's it made your mouth fairly water.

"An like most young fellows, I had quite an appetite. My favorite dish was roast coon. You ever tried coon, Son? No? Well, there's just nothin' better if it's made right, real sweet and belly-soothin' it is. Coon then were scarcer than now. More men huntin' them for their hides, I guess. They brought a fancy price.

Quite a Cooner

"Now my granddad had been quite a cooner himself in his younger days, but while I was growin' up, his old joints couldn't take the damp, cold nights anymore an his huntin' was mostly talk. He could do plenty of that, though, you can bet. Golly, Ned! I can still see the boys gathered 'round on an early evening, swappin' coon-huntin' stories an' talkin' over their plans for the night's hunt. Let me tell you, things got mighty excitin' then, with smoke an tobacco juice affyin' every which way, an' Sam an' Ed tryin' to keep up with old Bill, aswappin' lies. 'Course, they weren't all lies—just enough exaggeratin' to make it interestin' — but me being young an green, not knowin' the difference, I just sat there on the edge of my chair, all fired-up an bug-eyed, eatin' up every word an' prayin' for the day that I could be livin' the stories they were tellin'."

"What about the dog, Zeb? When did you get him?"

"I'm comin' to that, Son, I'm comin' to that. Well, like I said, the more I listened to all that talk, the more worked up I got, an it just seemed I could hardly grow fast enough, so's I'd be big enough to get my own

hound an follow the ridges for them tricky ringtails. All I could think about was havin' my own redbone. Red would be his name. I used to dream about him an jabber in my sleep, callin' out, 'Here Red, Here Red!' 'til my pa thought I was going daft.

"Then when Sam an' Ed took me along on my first coon hunt, the fever really took hold on me. There's somethin' about a chase on a spooky, rainy night that sends the tingles right up your back, especially when the dogs bark treed an' you tear through the thickets, the briars an branches awhippin' your face, all het up an expectin' to see Mr. Coon high up in that old oak an' instead see a snarlin' bobcat, eyes ablazin' lookin' down at you. An' laughs! Why I thought I'd bust a gut when a holed possum turned out to be a skunk and sprayed Sam full blast. Only he didn't think it was so funny, a fact which I appreciated some years later.

Hooked on Cooning

"Yessiree, I was hooked good an proper by that time on cooning. Trouble was, though, I didn't have a dog. Now, a deer, rabbit or squirrel hunter could get game on his own leg-work, but a cooner had to have a hound. An' not just any old fleabag either. It had to be of good breedin' stock, one that had the knowhow to outsmart them crafty rascals. Dogs like that, even in hard times, cost more than most people could afford. So what chance had a slip of a boy, when he could consider himself lucky just to be eatin' regular.

"Still, that didn't stop my wantin'. Guess at one time or another we all hanker for somethin' so bad it fairly hurts, an that's the way it was with me. How I did pine for that dog. An' my granddad didn't help matters none when I went bellyachin' to him about my predicament, complainin' that it didn't hardly seem fair I couldn't get that redbone.

"'Boy,' he said, 'don't fret so. You'll

get your redbone someday. 'Sides, things that come hard, you're not likely to forget, so the waitin' will just make you 'preciate it the more.'

"Well, as much as I thought of my granddad, I didn't feel too kindly toward him at that moment, me wantin' sympathy an understandin' an him givin' me all that grown-up talk instead. But I kept dreamin' an every chance I got to earn a nickel or a dime, I'd stash it away, hopin' someday to have enough for my dog. 'Course, it was mighty slow going. By the end of the following year, I had only a few dollars saved an it began to look like I'd be an old man before I'd get enough."

"How did you get the money?" Dennis demanded.

"I never did, Son. Things worked out so I didn't need it."

"Gee, how was that?"

"Well, one evening the boys were sitting around at Ed's place as usual, hashin' over their hounds an huntin'. I was dozin' by the fire, half asleep, when Gramps asked me to chase down to the store to fetch him some chawin'.

"'It's pretty nippy out, boy, better wear my sheepskin,' he said.

A CHASE ON A spooky night sends the tingles up your back—especially when the dogs bark treed and it's a bobcat!



"I slipped into the bulky coat and started out the door.

"Ain't you forgettin' somethin, Son? Money's in the right pocket—better check to make sure that you have enough."

"I reached in the oversized pocket and got the biggest surprise of my life. My fingers touched a squirmin' ball of fur and I felt a wet nose and tongue lickin' my hand."

"Your pup, Zeb? Was it really your pup!"

"Yessiree, boy, the liveliest, little redbone puppy you ever did see. Fur the color of burnished copper, eyes as black as coal. He looked me over real eager like, wantin' me as much as I wanted him. I tell you, my heart started thumpin' 'til I thought it'd bust, so proud I was, an' Sam an' Ed just sittin' there, laughin' an watchin', an' Granddad grinnin' from ear to ear, knowin' they had pulled one over on me. Those cagey rascals had all gone together an chipped in to get me the pup, then slipped him in the coat right under my nose. I was sure walkin' on air all that night, I'll tell you."

"Gee, you were lucky, Zeb! Was he a good cooner?"

Hated Cats

"That's the sad part of my story, Dennis. I never did get to find out for sure. When Red was near eight months old, just beginning to come to full size an' voice an' startin' to work some with the older dogs, he chewed out of his pen an' lit out across town after a cat. My, how he hated cats, especially old toms. I hunted high and low for that dog for days on end with never a trace. Then one day somethin' seemed to tell me to try the town dump. Sure enough, there was Red, battered and cold, all covered with trash, where the fellow that run over him had pitched him. I felt mighty low then, Son, mighty low. Oh, Gramps and the boys got me another pup soon after, seein' how bad I took



IT WAS THE liveliest little redbone puppy you ever did see, with fur like burnished copper and eyes as black as coal.

it, but somehow it wasn't the same. Seems my wantin' had died with poor Red."

"Golly, that sure was tough. I wouldn't want that to happen to my pup."

"And I hope it never does, Dennis. One thing sure, you'll find out when you're older that it's like my granddad said. Things that come hard, you're not likely to forget, whether it be dogs or other wants."

"Yeah, I guess so," the boy said soberly. He turned away, then came back slowly. "You know, Zeb, two years is an awful long time to wait, especially since I really don't need a smart, knowin' dog, like your Red was. Do you suppose Nellie would be havin' any pups this year? Dad most likely would change his mind if I could get Mom to agree to it, an' maybe she would if. . . ."

"Tell you what, boy. I'll talk it over with Nell and see what she thinks, an you do the same with your folks. Maybe—just maybe—we just might be able to swing the deal."

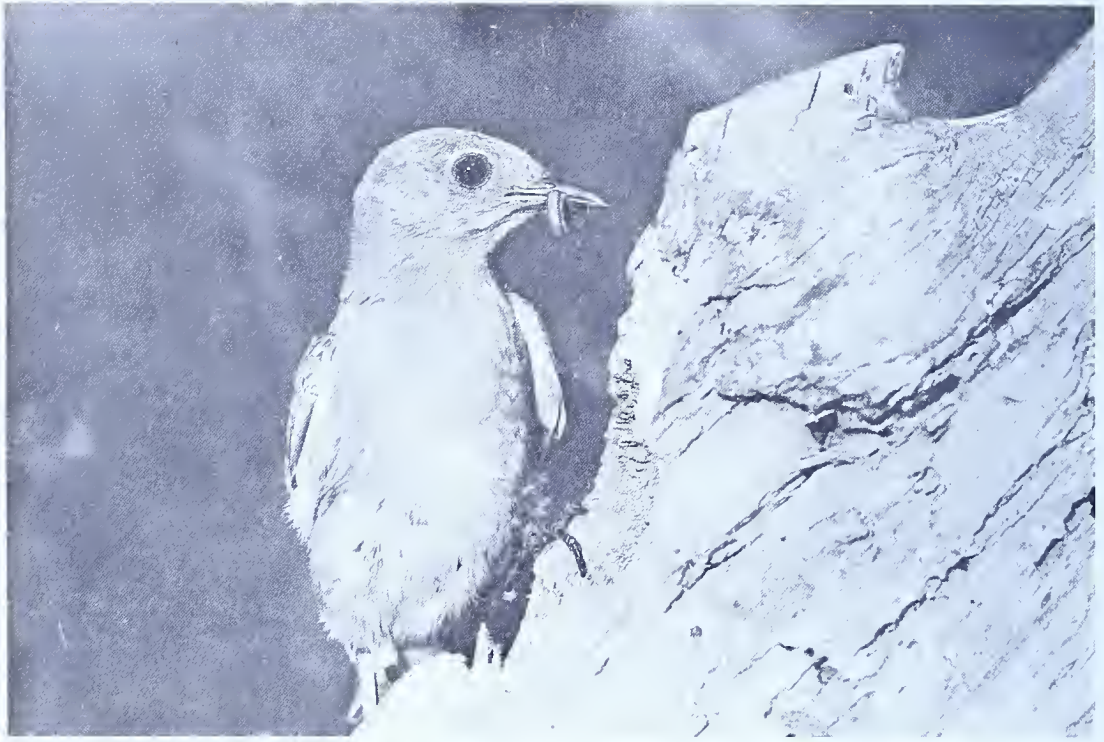


Photo by the Author

Our Eastern Bluebird

By Donald S. Heintzelman

EACH spring, as the first radiant rays of the warming season filter onto the fields and meadows of Pennsylvania, a small blue and brown bird, the Eastern Bluebird, may be seen proclaiming to the world his presence in his home territory. Of all the birds native to our state the bluebird is certainly one of the best loved. Indeed, it has been said that he carries on his back the blue of heaven and the rich brown of the freshly turned earth on his breast. The first settlers in Plymouth Colony loved this beautiful bird and fondly named it the "blue robin" in memory of their English robin redbreast.

Although the bluebird is a familiar sight to most of us, it is surprising to learn that many people are unaware of the fact it is actually a thrush, along with the wood thrush, robin and hermit thrush.

Unlike some of its close relatives which nest in the trees of the forest, the bluebird breeds along the open edges of fields and meadows. Before the coming of the white man, its natural nesting sites consisted of old, dead tree stumps at moderate heights above the ground.

Since the advent of so-called "clean agriculture," however, many natural nesting sites have been destroyed. Fortunately for the birds, however, is the fact that man eagerly welcomes its presence and has rallied to its aid by erecting bird boxes. How wise this is, especially for the farmer, for the food of these lovely creatures consists almost entirely of grasshoppers, crickets, katydids, beetles, ants and a host of other insects so destructive to farm crops. A very small portion of its diet does consist of fruit, the bulk of which is of no particular economic value.

Nesting may begin late in April and continues to the end of June or early July. Three to seven eggs are laid although five is the most common number. They are pale blue or bluish white and are unmarked. After the full set has been deposited they are incubated, mainly by the female, for about 12 days. The young bluebirds remain in the nest for about 15 days. The first few days after hatching finds the nestlings rather helpless but by the fourth day their eyes are open and by the eighth day the tail feathers begin to appear. Wing feathers, on the other hand, may be seen by the fourth day. Usually by the 18th day the young birds are in their full juvenile plumage.

Two broods are usually raised each year, and after all the young are fully grown the family groups frequently keep together in the general vicinity of the nesting site until the fall migration begins. And, the following spring many of the yearling birds return to the general vicinity of their birthplace to nest themselves. This is one of many valuable and interesting facts determined through the process of bird banding.

Since the introduction of the English sparrow and the starling, the bluebird has had more and more difficulty in finding suitable nesting sites, for the two European species are serious competitors for breeding locations. In some areas the problem has become so desperate that wildlife conservation departments have found it neces-

sary to establish projects in which nest boxes are built and placed in suitable sites for the purpose of establishing new colonies of bluebirds in areas where they once flourished.

A typical nest box may consist of wood about a half inch thick measuring five inches wide, five inches deep and about eight inches high. The entrance hole should be $1\frac{1}{2}$ inches in diameter, cut about $5\frac{1}{2}$ inches above the floor or bottom of the nest box. The boxes should be placed in open, sunny locations near fields and meadows, at a height of about four feet from the ground.

Clean Boxes Yearly

Once each year, after the breeding season, the boxes should be cleaned and repaired for the coming nesting season. And, it may be well to check them just before the breeding season to evict any small mammals which may have taken over the boxes for the winter months. To facilitate cleaning, the tops of the boxes can be made with hinges and locked in place by using a hook and eye on each side of the lid.

The future of the bluebird lies with you, Mr. Conservationist, for man, with his constant program of "improvement" is slowly destroying some of the finest nesting habitats available. Only you can assure future generations of the privilege of seeing this beautiful bird in the fields and meadows of our Commonwealth of Pennsylvania.

New Bird Guide Available

"Birds of Pennsylvania" is the name of a new paperback guidebook published by the Agricultural Experiment Station at The Pennsylvania State University. Written by Merrill Wood, associate professor of zoology, the book contains 156 original drawings by Dorothy L. Bordner of the most common birds in the state.

The volume describes briefly the 423 species reported in Pennsylvania, and includes data on the abundance, seasonal occurrence, habits and status changes, and general breeding and wintering ranges of these birds.

(Publications, Box 6000, University Park, Pa. 16802. 120 pp., \$1.)



Photos by Thomas Schreffler

THE AX

A Woodsman's Tool

By Albert G. Shimmel

OF ALL the tools a woodsman might use—and outdoor catalogs list more and more items every year—one stands far above all others in utility. This is the ax. The fact was brought home to me recently when I visited a friend's home. We were talking over past hunting seasons and making tentative plans for next year, and while examining a new rifle I noticed something a bit unusual in the gun cabinet. Unusual only because of its location. It was a diminutive two-pound double-bitted ax with a twenty-five-inch handle. I recognized

it as a favorite of my friend, one he'd used to work up wood for many a campfire during our trips afield, and I was pleased that he thought enough of it to house it with his expensive guns. He doubtless did so because of the pleasant associations it recalled for him.

My friend's ax is an heirloom with a history. It is one of the famous Pennsylvania axes that came from the forge of the old ax factory located on the outskirts of Mill Hall in Clinton County. The ruins of the dam that once furnished power for the ax factory are

still to be seen on the banks of Fishing Creek. The iron for the axes came from individually owned and operated farm furnaces in Bald Eagle and adjacent valleys. Martha Furnace, Hanna Furnace and Greenwood Furnace took their place names from marked furnace sites.

Pigs by Pack Train

The pigs of iron were sometimes carried by pack train up the mountain to forges located at Six Mile Run, formerly called Forge Run, and Karthaus in Clearfield County. Here the hardwood forests furnished charcoal in abundance. The pigs of iron were reheated with charcoal and formed into steel ingots. These ingots were carried back down the mountain and then rafted down to Mill Hall to be forged into ax heads. Some of the forging was done at Axman, near Bellefonte. As lumbering operations were in full swing on the branches of the Susquehanna, many of the axes made still another trip over the mountains to the log jobs of Chess Creek, Clearfield Creek, Moshannon and the upper reaches of the Driftwood and Sinnemahoning.

The Pennsylvania ax was distinctive. It was almost straight from bit to bit across the eye, but the lower part of each blade, called the bell or heel, was elongated into a graceful curve. This curve was ground very thin and was used in the bark woods to score a thin line through the bark at the top of a felled log. This made it easy to push the spud (bark tool) under the bark and pry it off in sheets. This bark was ranked in cords to dry and then hauled to the tannery.

Before me as I write are pieces of slag collected on the site of the Six Mile Run forge. It is my understanding that after leaving Mill Hall the ax factory was moved to New Jersey where it is still operated under the name Mann Edged Tool Company.

Axes are generally classified as either one-handed or two-handed,

single-bitted or double-bitted. They are varied in shape and size depending on the region of the country and the use for which the ax is intended. The one-handed ax is commonly known as the scout or camper's ax. It is almost always a single bit ranging in weight from about ten ounces to one and a half pounds. Its use is limited to light cutting and camp chores. If much cutting is to be done, a two-handed ax does the work more efficiently. The choice between a single and a double bit depends on the individual. The expert generally chooses a double bit. The single bit has a flattened rear face or poll that is useful for driving wedges when timber is to be split, pounding tent pegs, etc.

There are at least twenty-five named patterns of axes. They come in all sizes, shapes and weights, from the five-pound thirty-six-inch handled redwood ax to the diminutive pocket ax that weighs less than one pound. The width of the blade ranges from a scant two inches to the heavy fourteen- and sixteen-inch blades of the broadax. This latter is a special purpose ax for hewing timber to a flat surface.

FORGE MARKS are visible on this adz from the author's collection. The tool was made in Pennsylvania generations ago.





SHIMMEL USES his favorite camp ax, a medium-size Pennsylvania model, to clear brush near his home.

The origin of the ax is lost in the dimness of antiquity. About the time primitive man was squatting for warmth around his first experimental fires he probably began to feel the need for a tool that would reduce wood to reasonable dimensions. Sticks that were too large to break across his hairy knees were struck by a hand-held stone. Some genius of the day discovered that the stone worked better when it was fractured to a cutting edge. Finally the first hatchet was lashed to a handle and became a tool and a weapon.

The ax and the rifle conquered the American wilderness. Each was equally important. Today there are many that still possess skill with the rifle, but the skillful axman is almost extinct. Possession of a good ax and the ability to fully utilize its potential can be the difference between comfort in a hostile wilderness and mere survival. A skillful woodsman can produce fire, either by striking sparks from its steel blade or by using it to

make the bow, spindle and base for a fire by friction. The wilderness trapper makes deadfalls and snares for all animals from the smallest weasel to the largest bear. With his ax he will skin, dress and butcher his catch. He will fashion a simple raft for a river crossing or a graceful and durable birchbark canoe that will serve him for years. Snowshoes and toboggan are necessities for winter travel. He can make these, and such primitive weapons as the spear or a bow and arrows. He can build furniture to add to the comfort of his cabin, make simple implements such as rakes, spades and forks, hew troughs to catch maple sap, water his stock or tan his leather. He can split puncheons for his floor and shakes for his roof. The ax was so indispensable that legend says pioneers even "Edged her up a bit and shaved with her on Sundays."

With a thin sharp blade, set true and tight on a well-balanced helve, an experienced axman performs with unbelievable skill. I once timed two expert pulp cutters at their work. With apparent ease they cut twenty-five five-foot sticks of pulp in twenty-five minutes, from standing timber. The modern power-driven chain saw would be hard pressed to equal this feat.

Splits Matches

Another expert exhibits his skill with his ax by placing six matches side by side on a log and then with a full overhead stroke splitting them one after the other without a miss. Such precision is seldom attained, even among experts. This man is also a better than average golfer. He claims that the exercise with the ax strengthens his wrists and hands and gives him better control on the course. Chopping is excellent exercise, too.

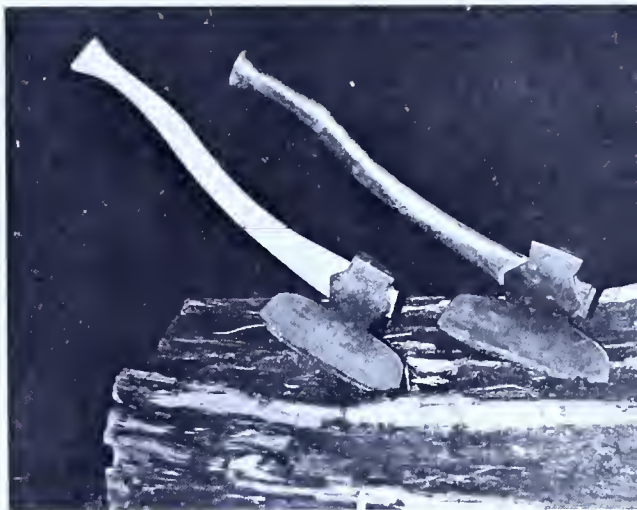
One of the common errors of the beginning axman is swinging too hard. Little more effort should be used in the cutting stroke than is needed to lift the ax. The weight of the head behind a keen blade causes it to bite

deeply. The expert carries a hone and uses it religiously after each chopping session. He emphasizes smooth, effortless precise motion, rather than trying to drive the blade. As in other fields of activity, excellence comes only with practice.

Evolution has produced several edged tools that are really specialized axes. The broadax with its offset handle is an example. It was used for squaring timber to be used for sills, rafters, railroad ties and rafting timber. The handle was bent in order that the user could hew along the log without skinning his knuckles. Examination of these ancient timbers as they are a part of old barns and houses will reveal that they were so cunningly crafted that scarcely an ax mark can be seen. Measurements reveal surprising accuracy, indicative of excellent axmanship.

Building contractors are ever alert to salvage these ancient timbers. Hauled away to the city, they are incorporated into modern homes at fantastic prices. Actually, the only preparation that many of these ancient timbers require is a gentle sand-blasting to renew the surface.

The crooked-handled foot adz is really an ax with the blade set at right angles to the handle. It was used to



THESE BROADAXES are nearly 100 years old. The one on right still has its original handle. Old-time hewers called these axes "toenail clippers."

finish squared timber. Today they are seldom seen outside of museums.

Among my outdoor friends, many are avid collectors of firearms but only one shows any interest in the ax. Here is a field that is practically untouched by the serious collector.

Should I be required to choose between the rifle and the ax in a wilderness survival test, I would take the ax. As Tom Berea, a Chippewa guide, once expressed it, "Good ax, my friend."

Bags 3-Legged Deer

Sam Elonis, of 1069 Bristol Pike, Morrisville, bagged a three-legged buck during the past hunting season in Pike County. Sam has only three fingers on his one hand.

Penn State Offers Dog Course

The Pennsylvania State University recently announced a correspondence course on the care and training of dogs. The course is part of the university's informal, non-credit program. Students enroll any time and study as their time allows. Instruction on feeding, shelters, disease and parasite controls make up major parts of the dog course and breeding, whelping and puppy care come in for detailed discussion. To enroll, send your name and address with \$3.25 to Dogs, Box 5000, University Park, Pa. 16802. There are no other charges.



Gun Storage

By Don Shiner

HOW do you store firearms? Closet, corner, cabinet, wall rack?

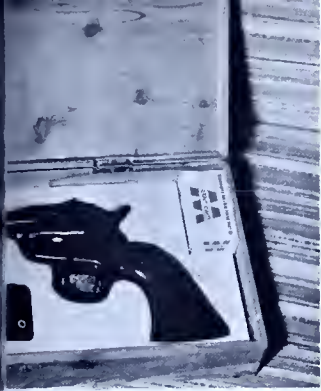
Traditionally, the household rifle or shotgun was stored handily, years ago, in some corner of a room or closet. Today, with most hunters owning far more than one firearm, it would require every available corner in the house to store them in this manner. Instead they are generally stored or displayed, between trips afield or to the range, in special cabinets or wall racks. Justifiably so.

Firearms are expensive and cherished possessions to many. Novel ways have been devised for storing these pieces. A few methods are shown on these pages.

Look 'em over. If you're thinking of a new cabinet or unusual way to house that growing collection of arms, perhaps one of these methods may appeal to you. Each one is easily duplicated in your workshop.



GUN CABINET at top left has sliding glass doors which permit owner to display firearms proudly, make them part of room decor. For man who owns but one gun, a sturdy wooden case, as at left, is useful.



A PRESENTATION-TYPE case is ideal for a handgun, while A-frame model gives good display of several long guns. Or you might prefer a combination gun and book keeper—within a grandfather's clock!





Not Quite Crockett

HUNTINGDON COUNTY — Jeff Hall, a Huntingdon High School student, told me that on the last day of turkey season he and two companions were hunting on Stone Creek Ridge when they ran into a flock of approximately 50 wild turkeys. Between the three of them they shot up two boxes of shells and killed one turkey.—Land Manager W. H. Shaffer, Huntingdon.



The Surgeon's Touch

BEDFORD COUNTY—One of the local doctors here was being kidded a little bit prior to the opening of deer season as to how neat an incision he would make when field-dressing a deer, if he was lucky enough to connect. During the course of the day I came upon this doctor and saw that he had a nice buck. Figuring to carry on with the kidding, I said, "Well, let's see the incision." He countered with, "Do that, and also notice the suturing job." I still haven't figured out if he got in the last laugh or was just replying from force of habit.—District Game Protector C. J. Williams, Bedford.

Deer in Dauphin

DAUPHIN COUNTY—In compiling the 1967 total of highway-killed deer in my district, which is the southern part of Dauphin County, it was found that 214 were killed during the year. Since at least 80 percent of my district cannot be classed as typical deer range, this is a surprisingly high figure. Despite a good kill of both antlered and antlerless deer during the regular seasons, I doubt if the herd here has been reduced to a desirable level. As an example, 11 road-killed deer were picked up since the close of the season. During the past summer and fall it was an exception to see a doe with a single fawn. Nearly invariably they were accompanied by twins.—District Game Protector H. H. Thrush, Harrisburg.

Now Hear This

JUNIATA COUNTY — Many times we hear criticism of laws and the statement that they're all intended to handicap the law-abiding citizen. Well, this year we have a new law allowing a serviceman who unexpectedly got leave to buy an antlerless deer permit even though the quota was sold out. This gave several boys good deer hunts and added to their holiday leave. Then the unfit deer law allowed a person who killed an unfit deer, bear or turkey to hunt for another one, and this sure helped with the sport. Also, certain handicapped persons were allowed to hunt from vehicles, and they could thus pursue a sport they were previously restricted from. Obviously, not all laws are restrictive. — District Game Protector R. P. Shaffer, Mifflintown.



Well, That's His Allowance

SOMERSET COUNTY—Fish Warden Joe Dick told me that Greg Jarvis, 14, of Confluence, accompanied Mr. McVicker on the first day of the antlered deer season. Greg was using a single-barreled shotgun. Mr. McVicker placed Greg on a stand and then moved about 100 yards away. A little later a nice buck walked out 25 or 30 yards in front of Greg and stood and looked at him. Greg shot one time and missed. The buck moved only a few feet, stopped again to look at him, and after a minute or two walked away. When Mr. McVicker later asked Greg why he didn't reload and shoot again, Greg's answer was, "I didn't want to waste any more shells on that one."—District Game Protector D. C. Snyder, Meyersdale.

That's How It Goes

BUTLER COUNTY—Although we had an extremely nice harvest of bucks in this county, I have heard of many hunters seeing antlered bucks in the antlerless season. At the close of the opening day of antlerless season in the Eau Claire area, one hunter told me he had spent the entire day hunting, and had not seen a single doe. "But," he said dejectedly, "would you believe it? I saw three different bucks today."—District Game Protector W. N. Weston, Boyers.

WARREN COUNTY—One day in December I was checking cars along a road in the Allegheny National Forest when I saw an auto suddenly stop a short distance from me. I knew by the driver's action that he was unloading a rifle while in the car. As I was walking toward the car, I heard a loud bang and saw the top of his convertible car pop up into the air several inches. As I approached the car, I told the man that was what happened when you had a loaded gun in the car. The man promptly said, "What loaded gun?" A quick look revealed a hole in the floor of the car where the bullet had gone through. The man paid the customary amount for this type of violation. — District Game Protector D. C. Parr, Tidioute.



Conflict of Schedules

SNYDER COUNTY—On Friday of the antlerless season I saw a hunter at a distance wearing a bright red coat and matching pants, but the hat seemed awfully large and clashed with the rest of the outfit. It turned out to be a lady hunter with a mound of curlers in her hair. Could be the extended day of the season fell on her regular day at the beauty parlor, and rather than lose a day of hunting, she had given herself a home permanent. —District Game Protector R. W. Dale, Middleburg.

A Sure Thing

YORK COUNTY—While checking deer on December 6 at Patterson's Meat Market in Winterstown, Mrs. Patterson said she'd just had a call from a man wanting to know if they took care of deer. She said they did and asked when would he be bringing it in, as they were closing soon. He said he would bring one in on December 13. Asked why he would not bring it in until then, he said he was not a hunter but a friend of his was going for antlerless deer on the 12th and promised to give him the deer he would get. P.S. He brought one in on the 13th! — District Game Protector R. L. Yeakel, Red Lion.

Unusual Death

LYCOMING COUNTY—Joe Hart of Jersey Shore was hunting near Nichol's Run in Lycoming County. While sitting at the base of a tree watching for deer, he noticed a gray squirrel feeding toward him on the ground. The squirrel came to within a few feet of the hunter. Mr. Hart made a sudden noise and instead of the squirrel running away as expected, it fell backwards, tried to climb a nearby tree and fell over dead.—District Game Protector M. Evancho, Jersey Shore.

We Hope So, Too

ALLEGHENY COUNTY—On the evening of December 19, 1967, just three days after the four-day antlerless season ended, six does and one buck were picked up after being killed on highways in my district. While going after one deer I personally saw two more get bumped by autos but not hard enough to kill them or even injure them badly. I hope the lady that wrote to the *Pittsburgh Press* and said, "Isn't it a shame to shoot deer in Allegheny County," gets to read this.—District Game Protector R. B. Belding, Bradfordwoods.

Cottony Cottontail

CENTRE COUNTY—Bob Parks of Milesburg killed a cottontail this past hunting season that was all white except the ears and the tip of the tail. —District Game Protector D. Sloan, Bellefonte.



Some Days Are Like That

VENANGO COUNTY—Most Deputy Game Protectors are very devoted to their job, and Deputy Jim Lowros of Pleasantville is no exception to the rule. One day during the past deer season, this devotion caused Jim a couple of headaches. The rainy weather made the roads to the Miller farm area along Oil Creek deep with ruts. Jim wanted to check out the area anyhow, and started down the steep grade. On the trip down he broke his brake line and had no brakes in his auto. On the way up he broke his gas line, and was losing more gas than he was using. When he reached the top, rather than head for home, he saw a Jeep parked with hunters in it, and he just had to check it out. While talking to the hunters, Jim took off his Stetson uniform hat and laid it on the roof of the Jeep. After awhile the Jeep drove off. Then Jim realized his hat was going down the road to Miller farm again, but he could not follow with his car. Jim still is looking for his hat. Maybe a bear will find it and use it to fight forest fires.—District Game Protector L. E. Yocum, Oil City.

Throne Sitter

MERCER COUNTY—Tom Campbell of the Grove City Sportsmen Club recently told me that a company is filling in a small swamp next to their garage outside of Grove City and different people dump different types of fill in this swamp. Someone threw an old stuffed chair in the water and it landed upright. Soon a muskrat took claim of it, and built a house right on top of it. He's out of the water and is living high and dry. Probably he feels like the King of the Colony.—District Game Protector J. A. Badger, Mercer.

Bigger and Better

CAMBRIA AND INDIANA COUNTIES — While working at the deer checking station near Delmont, we had the opportunity to examine over 700 antlered deer. And while there were the usual number of spikes and small racks, the nicest racks that I have ever witnessed also came through. Dozens and dozens of nice racks were in evidence this year, and another surprising thing was the fact that a great number of these fine deer came out of the Big Woods.—Land Manager C. L. Ruth, Indiana.

They Mean Business

PERRY COUNTY—I have had the opportunity to present a few programs to the West Perry High School Sportsmen Club. Due to the interest shown by the members for the club, it is a pleasure to present a program to them. Kenneth E. Morrison, the teacher in charge of the club, recently sent me a copy of the club's constitution. I was impressed with Article III, Section 5, which says: "Any member of this club caught by an official Game Protector in any violation shall be dropped from the club without hesitation."—District Game Protector B. D. Jones, Loysville.

Unreasonable Actions

ERIE COUNTY — I have had numerous complaints from persons who find deer hides and heads discarded on their property, along highways and even on their front lawns. It is evident that the people who are guilty of littering have little respect for their fellowman. In the discarding of deer hides, while they are subjecting themselves to a \$25 to \$100 penalty, they are also disposing of something of value. Many beautiful and valuable items can be made from tanned deer hides—gloves, vests and shirts, to name a few. Or an individual can get several dollars from a dealer for a hide, with far less effort and risk spent than dumping it on someone else's property. — District Game Protector R. L. Sutherland, Erie.

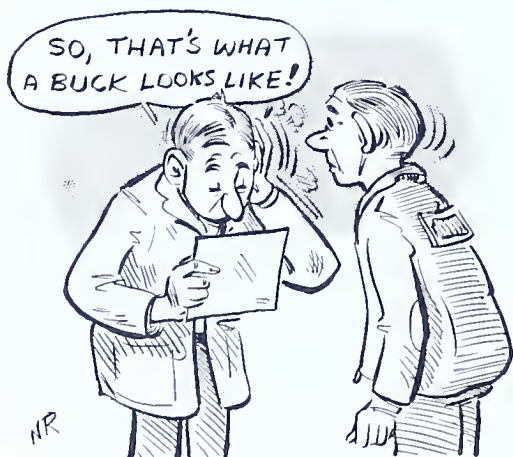


Heartburn: Cause and Cure

CRAWFORD COUNTY — Deputy R. Kuntz tells about a certain hunter who carries his shotgun in the car going to and from work. This man spotted a ringneck one evening and ran after it across the field. When he flushed the bird, he raised his gun, a single barrel, and pulled the trigger, but it did not fire. He opened the gun and found that instead of inserting a shell he had loaded it with a roll of Tums.—District Game Protector J. R. Miller, Meadville.

Pheasants + Rabbits + Deer . . .

BERKS COUNTY—We have a better carryover of pheasants in this district than we ever saw before. Several snowfalls during December also revealed that we have sufficient rabbits for our needs. Bad weather during the extended season benefited the game rather than the hunter. From all accounts we had an exceptionally good harvest of antlered deer, though that of the antlerless season was below expectations. The evening of December 15, after three days of hunting during the antlerless season, we had seven deer hit on the highways. Our highway kill for past calendar year totals 192, the second worst season we have had in this respect.—District Game Protector J. A. Leiendecker, Reading.



Scoped Camera?

CLINTON COUNTY—According to an Associated Press release, Irving M. Stely, a Pennsylvania man, went deer hunting in Lycoming County. When he returned he said he was pretty disappointed because he hadn't seen any deer. However, he had taken some photographs of the scenery and he hoped they'd turn out nicely. They did. One of the prints was especially interesting. Right in the center, staring smack into the camera lens, was a nine-point buck.—District Game Protector C. F. Keiper, Renovo.

Just Wanted a Ride

GREENE COUNTY—About 1:00 a.m. on December 11, Deputy John Jento investigated a call by a man reporting a deer that had been picked up after being hit by a car. John was surprised to find the deer sitting contentedly on the rear seat like a large dog. John opened the two rear doors and gave the button buck a helping push out of the car. The buck stood awhile, oriented himself, then ran out of town toward the nearest woods.—District Game Protector T. Vesloski, Carmichaels.

Big Ones

MONTGOMERY COUNTY—I have talked with the taxidermists in my district and they all say that the deer heads brought in for mounting have been heavier and with better shaped antlers than ever before. — District Game Protector R. G. Clouser, Lansdale.

Winter Game

SOMERSET COUNTY—During the last week of December, while patrolling in an area where I had released snowshoe hares in January, 1961, I was encouraged to see their tracks in several locations.—District Game Protector E. W. Cox, Somerset.

Foggy Benefit

HUNTINGDON COUNTY—Due to the poor weather conditions that prevailed on the first two days of the antlerless season, I feel sure that the harvest will be a little lower than would have been desired. However, the fog on the mountains did accomplish at least one thing—it moved the hunters down onto and along the farm lands, and they collected some antlerless deer where we most want to have them taken.—District Game Protector G. W. Wendt, Petersburg.



CONSERVATION NEWS



Minimum Deer Harvest of 126,000 Expected

PENNSYLVANIA hunters, who for six consecutive years have recorded increased deer harvests, appear to have extended the string to seven during the 1967 seasons.

Preliminary field estimates indicate that hunters took a minimum of 67,000 antlered whitetails and 59,000 antlerless deer in the Commonwealth. The estimates are based on observations by District Game Protectors and other personnel who were afield throughout the season.

Game Commission spokesmen emphasized that the 126,000 total harvest is a preliminary estimate, not a calculated figure or actual count. Final figures on the number of successful hunters who report tagging deer will not be available for some time.

If hunters actually harvested 67,000 antlered deer, a new record will have been established. The previous all-time record reported buck harvest occurred during the 1965 seasons when 65,150 animals were taken.

Hunters must be realistic too. They can't expect to continue harvesting more and more whitetails year after year forever. There is a limit to everything and the deer herd is no exception.

Despite heavy annual harvests the herd in parts of the state is at or exceeds the comfortable carrying capacity of the range. In such areas attempts to increase the deer population would simply result in an additional drain on an already marginal food supply and conflicts with other uses of

the land would reach an intolerable level. Obviously, deer management objectives are lost should such conditions be allowed to exist for prolonged periods of time.

Hunting pressure, as controlled through allocations of antlerless deer licenses, serves to remove surplus animals and maintain a herd in balance with available food supplies. This approach to deer management not only results in the harvest of a predetermined number of animals to relieve problems of over-population but also

BARBARA OCHS, of the GAME NEWS circulation staff, with the 4-point buck she got in Perry County during the past hunting season.



affords the licensed hunter maximum recreational opportunities.

Sportsmen have generally come to accept Game Commission thinking that, in the long run, over-protection can mean fewer deer, and figures of the whitetail harvest for the past seven years seem to support present wildlife management practices.

During the 1930s, antlerless deer were not hunted for five years. In those five closed seasons, the buck harvest averaged just over 20,000 annually. During the 1940s, there were four closed seasons on antlerless deer, and the buck harvest during those years averaged just under 30,000. In the 1950s, there were just two years in which there was no antlerless hunting, and the buck harvest averaged just over 40,000 for those seasons.

There have been no closed seasons

for antlerless deer in the 1960s, and the buck harvest since 1959 has averaged almost 50,000 annually. The antlerless deer harvest during the '60s has averaged 35,000 yearly. Paradoxically, the more antlerless deer are harvested by hunters, the more antlered deer seem to be available. To a point, it's a case of sportsmen having their cake and eating it too.

The other part of the deer success story is found in natural conditions. Unusually mild winters and abundant acorn and beechnut crops have been big factors in sustaining a larger herd of whitetails.

While the 1967 harvest was designed to stop this upward spiral, there are still plenty of deer in the state, and hunters can look forward to finding lots of targets in the seasons to come.

THE DECEMBER, 1967, GAME NEWS told how Floyd Reibson bagged the magnificent buck which is now No. One in the Pennsylvania records and carried a photograph believed to be the only one of Reibson with his buck. It also mentioned another large buck he got the previous year. Retired DGP Bob Latimer recalled taking a picture of Reibson, who was then 18, with both deer, and dug the photo out of his files. It is reproduced below. It seems unlikely that any other Pennsylvania hunter ever collected two such trophies.

Photo by Bob Latimer





TWO KANGAROOS GIVEN to Hershey Zoo by Australia's Taronga Park Zoo for a raccoon. Exchange was arranged by Chief Engineer C. F. Bonawitz, shown with Hershey officials Rawleigh Hughes, Harold Mohler and Arthur Whiteman.

Natural Gas Lease

A natural gas royalty bid of \$.04 per thousand cubic feet of production has been received by the Pennsylvania Game Commission for an oil and gas lease covering two small tracts totaling 283 acres in State Game Lands 174, Banks Township, Indiana County.

An oil and gas lease has been executed in favor of the successful bidder, Fairman Drilling Company of DuBois, and well locations have been approved. The company will drill wells to the Kane Sands, or an approximate depth of 3700 feet, the horizon from which nearby wells are producing natural gas.

Although the acreage is small, development of gas from reserves underlying these Indiana County tracts will provide the Pennsylvania Game Commission with a fair monetary return for its share of gas being produced from the shallow gas field.

Tentative Opening Dates Set for 1968 Hunting Seasons

Tentative opening dates for 1968 hunting seasons were established by the Pennsylvania Game Commission at its January meeting in Harrisburg. Dates approved by the Commission are:

Archery Deer	Saturday, September 28
Early Small Game	Saturday, October 12
General Small Game	Saturday, October 26
Bear	Monday, November 25

The Commission previously established Monday, December 2, as the opening day of the regular antlered deer season.

Official dates, lengths of hunting seasons and bag limits will be established at the June meeting of the Commission.

Incumbent Commission officers were reelected for another year. These include Frederick M. Simpson of Huntingdon, president; R. G. Smith, Berwick, vice-president; and Robert E. Fasnacht, Ephrata, secretary.



DGP HENRY STANKEWICH conducts wildlife class for group from Millersville State College at State Game Lands 145.

Game Commission Personnel Honored

Three more Pennsylvania Game Commission personnel were winners of top awards this year from the Pennsylvania League for Civil Service. Of the 95,000 state employees, ten were singled out for special honors. Four of the ten, including one from the Game Commission, were chosen to receive Career Service Awards. The other six, including two PGC personnel, received Honorable Mention Awards.

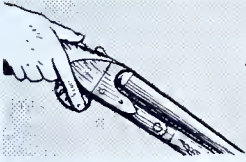
Woodrow E. Portzline, NW Division Land Management Officer, won the coveted Career Service Award. Portzline has been instrumental in reducing stream pollution, in restoration of strip mines and in other soil, farming and game conservation activities. He helped found a junior conservation school in Butler County in 1957 which was the first of its kind in the nation and which has served as a model for other counties in the state and for other states. In addition, he has been active in community affairs and youth groups and speaks to schools and civic groups in the interest of conservation.

Schuylkill County District Game Protector Lowell Bittner and Zelda Ross, GAME NEWS circulation head, received Honorable Mention Awards.

This is the second year that three PGC employees have been so honored. Winners last year were Bob Parlamen, Paul Failor and Russ Enlow.

Check Label to Save Songbirds

Crabgrass control programs by homeowners in Minneapolis last year led to the death of robins and other songbirds according to the U. S. Bureau of Sport Fisheries and Wildlife. The chemicals used were chlordane and arsenic, both of which accumulate in the bodies of earthworms without harming them. The die-off may not occur until several weeks after the chemical applications to the lawn, when the birds eat the worms. Biologists urge the use of available controls which do not contain chlordane or arsenic.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Kids Give Views on Hunter Safety

WELL-KNOWN wildlife artist Ned Smith recently said, "I'll bet that if all boys were taught the joys of hunting and appreciation of the out-of-doors, half our psychiatrists, social workers, policemen and prison guards would be out of work when the next generation takes over." Oswayo Valley schools not only offer the joys of hunting but complete hunter education to boys and girls alike.

By adding the Pennsylvania Game Commission's Hunter-Safety Program to school curriculum, all sixth grade students learn game laws, safe gun handling methods and, above all, safe hunting practices that will remain with them for life. Instructors Ted Wichert, Bob Waterson and Tom Stedina and Coudersport District Game Protector Dick Curfman are happy with the results. But what does such instruction mean to children who have no interest in hunting?

The *Potter County Enterprise* wanted to find out, and upon completion of the 1967 program sessions, Oswayo Valley sixth graders were asked to write the *Enterprise* a short note giving their honest opinion of the course. Unfortunately, space will not permit reprinting all 72 letters received. Below is a random sampling of what hunter-safety education meant to those youngsters.

"I think Pennsylvania's Hunter-Safety Program is the best thing that can happen to any young hunter, even girls. I thank Mr. Curfman for showing his slides and answering our ques-

tions. I thank Mr. Wichert for all his hard work but not least, I thank our school board for letting us have hunter safety right in school."—Cory Estes, age 11.

"I liked Hunter-Safety very much. I think all hunters should know about safe handling and the parts of a gun. They should know about the cleaning too. We learned a lot and enjoyed it. I hope that soon every school will have a Hunter-Safety course."—Julie Hackett, age 10.

"I think hunter-safety is the best program a school could have. It teaches you the parts of a gun too. This program is administered by the Pennsylvania Game Commission. I'm glad they thought of it. In past years the program has reduced hunting accidents by the thousands. That's why I think it is great!"—Dane Surra, age 11.

"I think the hunter safety is a good program to take. If you didn't know very much about guns, you will after taking it. This course tells all about safety of hunting. It teaches the game laws. I think they are very important. Not every school is so lucky to have a hunter safety program."—Ronald Miller, age 13.

"I think the hunter safety course will help all of us young hunters in Pennsylvania to be safer with guns and ammunition and to know the game laws. With the help of the Game Commission, I hope more people will become safer hunters."—Cherry Olson, age 11.



BERKS COUNTY Hunter Safety instructors receive commendation award from Pennsylvania Game Commission officials at Reading.

THE FIRST Hunter Safety course to be offered by an industry in Pennsylvania was favorably received by employees of the Metropolitan Edison Company of Reading. Promoted by the company's interest in firearms safety and sponsored by Metropolitan Edison, a four-hour course was presented by expert instructors from the Reading area. The course included one of the largest exhibits of firearms and archery equipment which has ever been displayed to a class during a voluntary program. In cooperation with Berks County Game Protectors Joseph Leiendecker and Ray Ketner, these instructors also have presented Hunter Safety training to schools, sportsmen's clubs, Scouts and civic associations.

CIA Bob Parlaman instructs Jay Johnson in safe handling of shotgun at Conservation Camp in Lawrence County.



**Pa. Game Commission
Hunter Safety Certified**

To Date:

Instructors—8222

Students—141,383

Balloon Decoys

By Don Shiner

TIRED of totin' sackfuls of heavy and bulky papier-maché decoys while having a go at gunning crow? Try the newest wrinkle—balloon decoys. That's right, decoys that inflate easily as toy balloons and look almost exactly like crows. It's possible to tuck a half dozen or more of these into your pocket and take off gunning the tricky black targets with no more weighty gear to carry than shotgun and ammo. These lightweight inflatables, which fold flat as most present day wallets, are a real boon to this off-season gun sport.

Lightweight Gear

Readers of past articles are well aware that this columnist is keenly interested in lightweight gear and ways of lightening or minimizing the load of equipment carried afield. Because my gear usually includes camera, extra lenses, film, sometimes flash and tripod, together with the other necessities for the day's sport—game call or two, knife, lunch, Thermos, heavy boots, gun and ammo and often some decoys—the load gets burdensome. Therefore, when we learned that inflatable crow decoys had become available, we quickly ordered a half dozen for a trial go. Besides taking up no more room than gloves in a coat pocket, we found our balloon-birds deceived the sharpest-eyed crow, as well as the small song sparrow which is no slouch when it comes to a keen and discerning eye. This balloon crow appears to have set the stage for inflatable models of all kinds. One day they may dominate the field for use on decoyable game.

The balloon decoys we used are products of Smith Game Calls, P. O. Box 236, Summerville, Pa. 15864, a firm operated by James L. Smith, a



HUNTER FINDS balloon-type decoys easy to carry to shooting grounds, easy to inflate when there.

personable fellow, married and with children, who turned to manufacturing assorted items for hunters as a livelihood after an injury in a clay mine prevented further employment. During an interview Smith mentioned that fox and crow calling records were among his first business venture. Then one day Smith, who had handled and shot over decoys for years prior to his injury, suddenly envisioned foldable decoys that could be inflated like toy balloons on the spot in the field.

He invited numerous U. S. manufacturers to turn out sample balloon decoys over the outline of the crow. The prototype proved satisfactory in

all respects, save one. Its price was almost prohibitive. In desperation he turned to Japan, where several firms worked on his proposal. Costs were substantially lowered, so he authorized production of the inflatable crow model presently offered to U. S. hunters.

Made of tough vinyl-plastic, a few puffs inflate the decoy and a plastic stopper prevents air from escaping.



LIGHTWEIGHT DECOYS can be collapsed and folded into small volume for easy storage.

Seams in the vinyl material outline beak, wings and tail. Realistic eyes and nostrils are painted on. The decoy is fitted with heavy wire "legs" which are helpful in positioning the decoy on the ground. A plastic ring tab integral with the seam along the back provides a means for attaching a cord to hang the decoy in a tree.

Smith related, during our interview, that the balloon crow model proved so satisfactory that current plans on the drawing board include inflatable dove, duck and goose decoys. These may not be available to hunters for another year or more, but it gives an

insight into the shape of things to come. Waterfowl hunters will thus one day enjoy the same reduction in weighty decoys as is now possible to the crow hunter. Likewise, duck boats will not be so cramped with decoy blocks that there is no room for the hunter.

Highlights of Hunt

Let me relate highlights from our initial outing during which these balloon crow decoys played a major role in the fast shooting that we had.

This columnist is fortunate in having a natural crow-hunting setup nearby. For several winters now, flocks of crows, moving down from New York State, established a rookery in a dense stand of pines located less than a quarter-mile from my house. Almost any night during the winter I witness thousands pulling in and settling down in these trees. The perches bend under the weight of this great gathering. They stream out again at dawn to search for food, only to return to the pines at dusk. To locate a rookery such as this is a real find. To have crows establish one so close at hand is to have fortune smile upon the hunter.

A partner, skilled at trap shooting, and I have gunned crows regularly during the winter, though never so close to the roost as to alarm and chase them elsewhere. Late on this particular winter afternoon, we set out with the new inflatable crow decoys, to set up shop at the edge of a grain field located several hundred yards from the pines. Having reached the site, we hoisted a stuffed owl high in the gnarled limbs of an old chestnut. We next inflated and arranged the balloon-birds on both the ground and in branches of nearby trees. We finally stashed brush into a makeshift blind and climbed inside to relax and await the incoming birds.

The first few stragglers floated in some twenty minutes later, coming parallel to the tall Appalachian ridge.



SEVERAL BREATHS inflate decoys, which then can be placed in trees or propped on ground with wire legs.

I blew a series of frantic caws on the manual call. They turned and sailed in unwaveringly toward us.

We held fire as eight or nine birds floated in for a look-see at the balloon decoys. They circled. Then one spied the stuffed owl. It cut loose immediately with a clamor that vibrated the airplanes. Reinforcements appeared within minutes. As their number grew, we cut loose, emptying our shotguns. We reloaded and cut more from the air. The angry flock milled around the decoys for ten—maybe fifteen—minutes. Twice they retreated to the far reaches of the field, only to return for another round as new clan members showed on the scene. They finally left, winging to the outer reaches of the pines and remaining, far noisier and nervous than usual as darkness began closing in.

We pulled stoppers from the decoys to let the balloons flatten to envelope size, and walked home with no more weighty gear than stuffed owl and shotgun tucked under our arm.

The point in relating this incident

is to demonstrate how effective the crow decoy setup was. Of course, one could argue that the stuffed owl played the major role, and that once they spied this old enemy, the crows cared little whether the balloon decoys looked like birds or tomcats. Nevertheless, the balloons were instrumental in attracting the birds to our setup in the first place.

The black vinyl material used in these crow decoys has a bit of a sheen that glares slightly in strong sunlight. There is no problem with this sheen on dull overcast days or in deep shade. Likewise, vinyl is vulnerable to stray shot, but this is no great problem since punctures are patchable.

What is far more remarkable is the likeness of these inflatables to live crows. Slightly oversize and patterned after the western raven, they deceive not only crows but sparrows as well. When the little drab songsters are confronted with one of these balloon-birds, they take off fast for parts unknown.

Two balloon crows have become

DECOYS are somewhat larger than life-size, but this apparently is not noticed by crows or other birds.





USED IN CONJUNCTION with an owl decoy, inflatables are useful in attracting crows to gunners' positions.

sentinels in an open pavilion at our hunting camp, keeping the sparrows and other songsters from roosting on the exposed beams and dropping their white marks on the picnic tables and furnishings. Readers who have experienced similar trouble with birds perching or nesting on exposed rafters of porches, carports or cabins will find a balloon crow decoy or two will lessen the problem.

Hung from limbs of cherry trees,

these inexpensive inflatable decoys may also serve as a first-line defense against starlings and grackles that gather in droves to destroy much of this fruit. From numerous angles, the vinyl-balloon birds are good products to investigate.

Having examined and tried these inflatable crow models, one is led to the conclusion that balloons could one day very well dominate the field of decoys.

YOU Can Answer Anti-Gun Editorials

Hunters have the right to rebut a radio or TV editorial supporting unreasonable firearm legislation. Under the little-known Fairness Doctrine of the Federal Communications Commission, the station is required to grant sportsmen a "reasonable opportunity" to state their case.

Sportsmen are urged to check their facts carefully and choose a spokesman representing the responsible sportsmen's groups in their community. If the station does not cooperate, notify the FCC, E. William Henry, Chairman, Washington, D. C. 20554.

Little League



By Keith C. Schuyler

Photos by the Author

ALTHOUGH it has been repeatedly proven that teen-agers can compete with the best of archers on the target line, the overall archery program for juveniles leaves something to be desired. Most of the youngsters in archery are there because one or both of their parents are participants. What is to be done about this depends largely upon those already in organized archery.

It is true that junior stakes are now required on field courses. There are junior events at the state target shoots. We are making a proper show of admitting the youngsters to the sport, but there is still a great void in the program to really encourage them.

Wherever facilities are available, probably the one most important thing

we can do is to set up tournaments for the kids.

For a number of reasons this appears to be a good idea. Even though young people are admitted, even encouraged, to participate in tournaments with adults, this is not enough. Except for the youngsters whose parent takes a genuine interest in his shooting, the average young archer is quite apt to fall by the wayside. Distances are adjusted to make it easier for those with less muscle, but kids have a natural reticence to intrude upon activities of their elders. It is a lot different stepping up to register for a tournament than it is shooting with Dad in the backyard. One careless remark by one of the senior shooters about how slowly the youngsters



JIM FOWKES shows winning form which helped him take honors at shoot in Marysville.

get around, or how much time they spend looking for lost arrows, can quickly discourage a boy. And, girls *never* cease to be sensitive. Their feelings are much more apt to be bruised in similar circumstances.

The answer, of course, is to sponsor events for the kids themselves. If each club would clear the deck at least once a year and concentrate on getting the youngsters to the shooting line, the coming crop of archers might be increased in numbers considerably. The best time to do this is early in the season, so that they will be encouraged to continue shooting throughout the season. Familiarity with the adult group is more apt to encourage closer association during the balance of the shooting year when regular tournaments are being held.

At the well-known Bowhunters Festival in Forksville each year special targets are set aside for the young people. Activity at these ranges is

heavy throughout the several days of shooting. Here is where the young hopefuls can shoot away without regard to score or perfect shooting form.

Of course, a backyard setup encourages youngsters. But it is not always possible from the standpoint of available space and safety to permit such shooting. Despite the inclusion of junior programs in the archery association programs, limited participation is a good yardstick as to how the kids feel about shooting alongside adults. Potentially, bow shooting sons and daughters outnumber us substantially and it would seem that we would be in the minority from a standpoint of simple statistics.

Marysville Meet

A good example of the type of program which needs more encouragement was the Junior Olympic Archery Development Program Shoot held last May 27 at Marysville.

Probably the most important aspect of this shoot was the fact that the Marysville Lions Club sponsored the event jointly with the Pennsylvania State Archery Association. Here was a double benefit for archery, since members of the Lions Club had a new insight into the sport while making the kids kings for the day. It is probably no coincidence that Howard and Jeff Oesterling worked together to ensure success of the event. Howard is one of the moving forces in the Marysville Lions Club, and his son Jeff was 1967 president of the Perry County Buck-tails Archery Club.

Members of the Lions Club turned out in force to provide an attractive setup for the shoot, and delicious food was available on the grounds. Just across the river from Harrisburg, the site is centrally located, and it attracted 44 contestants from around the state and as far away as New Jersey. The weatherman cooperated to make it a fine event from all angles.

Intermediates, ages 15 to 18, shot the American Round. This requires

30 arrows each at 60, 50 and 40 yards. For the Junior Round, 12 to 15 years, the Junior Single American was used. This is identical to the regular American Round except that distances are 50, 40 and 30 yards. Those under 12 years of age shot the Junior Columbia Round, which requires 24 arrows each at 40, 30 and 20 yards. Practice was permitted for a brief period before the regular tournament. As an added incentive, the Lions Club swimming pool was opened for the day and there was camping space available for those wishing to stay overnight.

Tough Competition

It was obvious the competition was going to be tough in the intermediate class when James Fowkes, 16, of Verona, registered. Jim swept everything in the intermediate class across the state in 1967. However, it was Bill Shoemaker, 15, of Gibbstown, N. J., whose 692 was tops in the Single American. Jim was second with a 655, closely followed by Ed Pirigy, of Fords, N. J., with a 652. However, it had been previously announced that the final champion in each event would be determined by a shoot-off among the six high-scoring finalists. For the intermediate class, the shoot-off was 12 arrows at each distance, 40, 50 and 60 yards. A perfect score was 324.

Jim Fowkes reasserted himself by emerging champion of the tournament with a 288. He was followed by Bill Shoemaker with a 274, and young Pirigy maintained his third position with 253.

In the junior class, 12-year-old Larry Smith of Glen Rock led with a comfortable score of 718 in the Single American. Harold Laytos, 14, of Nutley, N. J., and Michael Heisey, 14, of Ephrata, took second and third respectively with a 680 and 670. In the shoot-off, Larry maintained his excellent shooting form by registering 300 out of a possible 324 to lead the field, even though he was the youngest

shooter registered in the junior class. He served notice with these scores that he is a young man to watch for the future. Harold and Michael switched positions in the final go as they posted scores of 290 and 280.

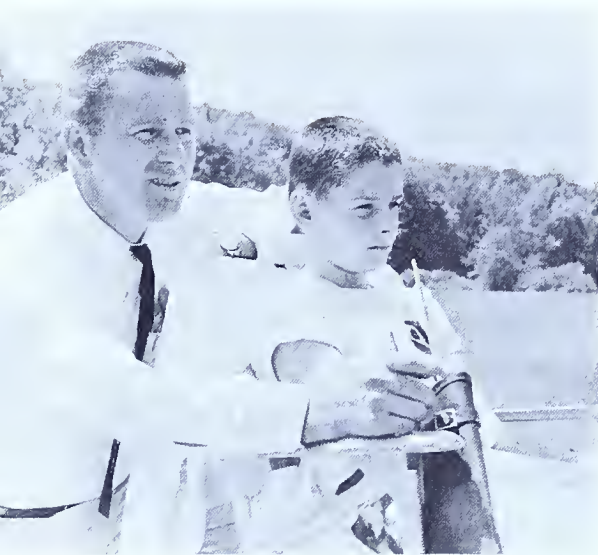
In the cadet class, boys under 12 years of age, it was 10-year-old George



HOWARD OESTERLING of Marysville Lions Club gets things moving as his son Jeff looks on.

Ruth, of Columbia, all the way. He boasted a comfortable 604 in the Single Junior Columbia Round, with the next highest score of 548 claimed by Tom Landis, 11, of Lansdale. Michael McGlenn, 11, of North Wales, came in with a 516. He was closely followed by little Bruce Markel, of Loysville, who boasted a big 509 despite his miniature size and eight years of age. Consequently, Bruce was in the shoot-off.

George Ruth held his first position and emerged champion in the final shoot with a 298. However, Michael McGlenn who moved up into second position gave Ruth some bad moments as he posted a 290. Tom Landis had



ED CHOYCE gives some pointers to young Mitch McGlenn, who placed second among cadets.

to settle for third with a score of 272.

The Young Ladies, a class which included all under 18 years of age, saw Gale Stauffer take it all the way. Gale, a 13-year-old from Palm, won with 680 in the Single Junior American, followed by her sister April with a 672. Stephanie Bortner, 16, of York, claimed third with a 634. Once again, although Gale came out tops with a 262 in the final, second and third positions were reversed. It was Stephanie who pushed Gale right to the last arrow with a 260, only two points off the pace. Susan Rothenberger, 14, of Boyertown, moved into third position with a 245 although she was only fifth in the American Round.

Cheryl Stauffer, at eight years of age, found herself without a class in which to shoot. This little girl from Palm was invited to shoot in the cadet class where she made a fine showing. Her 470 in the Columbia Round topped seven other shooters, all of whom were from one to three years her senior.

An interesting aspect of this tournament was the fact that, in all but one instance, the archer who scored highest in the official round maintained his position in the shoot-off to

determine the champion in each class. The one exception was in the intermediate class where James Fowkes moved into first position from second place in the shoot-off. This illustrates that there are some real comers among the young people. These winners showed championship form and the ability to withstand the pressure once the going got rough.

From this effort to develop future Olympic archery contestants, other lessons can be learned. These young people conducted themselves in a manner that was a credit to the men and women responsible for the activity. They showed excellent archery form and a keen sense of competition.

But, most important, this was an event where adults stood on the sidelines while youth had its day. Those of us in organized archery should be aware of every opportunity to encourage this type of activity.

There are a number of suggested procedures relative to encouraging youngsters to get into archery on

GEORGE RUTH, with target that made him tops in cadet class. With a score like this one, that big grin is understandable!



a competitive basis aside from the basic one here of sponsoring events just for juveniles. They don't cover the field, but they will help:

Do not over-bow your youngster. Your discarded bow may be fine for another adult or an older teen-ager, but it will discourage a younger person. These kids can shoot well only with equipment which *fits* them.

Do spend time teaching proper stance, hold and release. Don't let your child grow up developing bad shooting habits which will keep him from the winner's circle.

Do teach common range courtesies and respect for adult shooters.

Don't expect your youngster to be wild about archery just because you are. Pushing too hard can turn him from it.

Don't embarrass your boy or yourself by insisting that he shoot along when you are with other adults if he can't *really* keep up. It isn't fair to him, your companions or yourself. His

shooting will suffer as a consequence.

Don't lose *your* patience. If your juvenile student isn't progressing as fast as you think is possible, you can queer the whole deal by blowing your top.

Archery is a sport which demands a certain coordination of mind and muscle. Even though mechanical devices are today commonplace, shooting a bow is basically unchanged from the day someone discovered that it is fun for its own sake. It may come as a bitter disappointment to discover that your youngster couldn't care less. But don't let it get you down. Not everybody likes apple pie. And no United States President, unfortunately, was noted for his ability with the bow.

CORRECTION . . .

My January column on the Frontier Archery Club said it is located near Pottsville. This was an error. The club is near Pottstown. My apologies.—K.S.

Roast Duck

(Mallard or Black)

Pluck and thoroughly wash each bird. Allow one duck per two people. Stuff with orange stuffing and place, breast up, in a roasting pan. Spoon 1 tablespoon of dry white wine over each duck. Season each bird with $\frac{1}{2}$ teaspoon celery salt, $\frac{1}{2}$ teaspoon onion salt, $\frac{1}{8}$ teaspoon curry powder, and $\frac{1}{8}$ teaspoon pepper. Roast at 325 degrees for about 2 hours, a bit more if you suspect the birds to be old. Serve with wild rice cooked in consommé, buttered peas, and coleslaw.

Orange Stuffing

3 cups of toasted bread, cubed
 $\frac{1}{2}$ cup hot chicken bouillon
2 teaspoons grated orange peel
 $\frac{3}{4}$ cup diced orange
2 cups diced celery

$\frac{1}{4}$ cup melted margarine
1 beaten egg
 $\frac{1}{2}$ teaspoon salt
Dash of pepper
 $\frac{1}{4}$ teaspoon poultry seasoning

Soften bread cubes in broth. Add remaining ingredients, combine and stuff ducks.

Eyes to the Rear

Ever wonder how rabbits can spot your slightest movement, even when they appear to be looking in the other direction? They have bulging curved eyes that enable them to see rearward.





By NED SMITH

Neither winter nor spring. March is a little of both. Otter and fox tracks in the snow, a fussy muskrat, and returning hawks and waterfowl are part of the changing scene.

BY THE END of February even the most enthusiastic outdoorsman is feeling the debilitating effect of winter monotony. For three months he has looked at the same bare trees, the same familiar fields and hills, with diminishing enchantment. He knows every junco and blue jay in his bailiwick by name, and he hasn't added a new species to his bird list since New Year's Day. Even before he sets foot outdoors he knows what footprints he'll find in the snow. It's not that he's seen everything, of course, but the chances of finding something new are too remote to excite him.

Then, when all outdoors seem worn to the backing, along comes March—not bursting upon the scene like the cavalry rescuing a wagon train, but tentatively and unobtrusively, more like a runaway pup that is not sure of its welcome. A few skunk cabbage hoods poking out of a winter spring, or perhaps the yapping of a fox on the ridge. Muskrats wandering from their thawing domain and increased activity around the beaver dam. A greenish tinge on the willow's twigs.

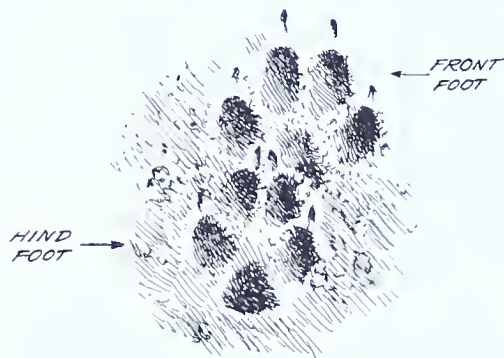
Then one day March suddenly comes in with a rush. Wild geese stream across the wind-tossed sky yelping their joy at going home. Ducks drop into newly open water. Hordes

of grackles and redwings throng northward through the lowlands. Ground-hogs houseclean their dens. The outdoorsman is suddenly deluged by more than he can absorb, but it's the kind of saturation he enjoys. Another spring is in the making and every trip afield will be high adventure.

March 3—In need of some color slides of various animal tracks, I found some good specimens on the way to one of my feeders. A gray fox had looked in on my setup, probably attracted by the scent of free-loading mice, and had left some perfect footprints in the mud by the winter spring. Round and neat, they looked like oversized house cat tracks, except for the claw marks ahead of each toe. Distinctly different are the red fox's larger, more oblong footprints—decidedly doglike in outline.

March 6—I'm always suspicious of warm weather so early in the year, but even though the moderation is temporary it does feel good. This morning I heard a robin give out with five minutes of unsteady caroling—the first I've heard this year. I doubt that he'll make a daily practice of it, for there'll surely be more freezing weather between now and the real spring to cool his ardor.

March 7—Apparently spring has gotten into the blood of a certain male junco that feeds at my blind, for this afternoon he was doing his best to impress a female companion. To the accompaniment of incessant chattering and twittering interspersed with ringing “chings,” he stretched himself erect as a stake, bill pointed skyward and immaculate white underside turned toward the object of his desire. Then he abruptly up-ended, bowing low, raising his tail above his head and fanning it fully to reveal the striking white outer feathers. The female was unimpressed, so after a few tries the male went back to eating.



FOOTPRINTS OF A GRAY FOX

March 8—Our local Game Protector picked up a deer that had been killed by dogs near Dauphin. Surprisingly, it was a fawn, still wearing its spotted baby coat. A check of the teeth established its age at between five and six months, its time of birth early last fall. Occasionally spotted fawns are seen during deer season, the result of the doe not being bred during the normal rutting season, but conceiving during a subsequent oestrus. As a rule they do not survive until spring, and when one does make it through the winter it's a sad thing to see him pulled down by a pack of renegade curs that should have been kept at home.

March 11—The loud, ringing “Kee'er, kee'er” of a red-shouldered hawk lured me down off Peter's Mountain this morning, and I finally glimpsed the bird skimming over the treetops along Powell's Creek. In a moment he was back, racing in wide circles and calling incessantly. As I watched, another red-shoulder joined in with piercing cries, and followed the other with legs dangling beneath his speeding form. The screaming and circling continued for nearly a half hour, and I suspect this to be a pair of birds establishing a nesting territory.

March 12 — Cummings' Swamp is throbbing with bird-noise these days. Male redwings are singing from every swaying bush. Grackles literally blacken the trees, and the din of their combined chacking and screeching is unbelievable.

The ducks are here, too. The cornfields, oozing with snow-water, are alive with mallards, black and pintails. I saw five wood ducks in the upper end of the swamp, gliding among the rippling reflections of the flooded birches. The drakes were elegant creatures, and I backed off to leave them undisturbed. Several large flocks of geese flew up-river this morning—one containing well over 300 birds.

March 14—A muskrat feeding on the roots of some unidentified weeds from the breast of our dam proved to be a surprisingly fastidious diner. Each time he dug up a root he carried it to the water three feet beneath him, where he carefully washed and ate it. Climbing back up the steep earthen breast he then dug up another and repeated the entire process. Not before he had laboriously washed and eaten a half dozen roots did he notice me sitting on the far bank observing his table manners. Without an upward glance he plunged off the bank and into the water like an overgrown frog.

March 18—Drove to Pike County early this morning to make some studies of

otter tracks and other sign. These fascinating furbearers are rare in Pennsylvania, but the District Game Protector took me to a spot on Big Bushkill Creek where there was more sign than I had any right to expect. Accompanied by the caretaker we cruised up and down the creek, stopping at a dozen spots to photograph and sketch the evidence. Most abundant were the places, usually on streamside knolls, where otters had been depositing their droppings over a long period of time. The dung consisted almost entirely of fish bones and scales, the older deposits bleached white. Slides and trough-like trails were still conspicuous in the remaining old snow, and in a number of places I found individual footprints where an otter had scampered up a slope or investigated a snow-covered beaver lodge.

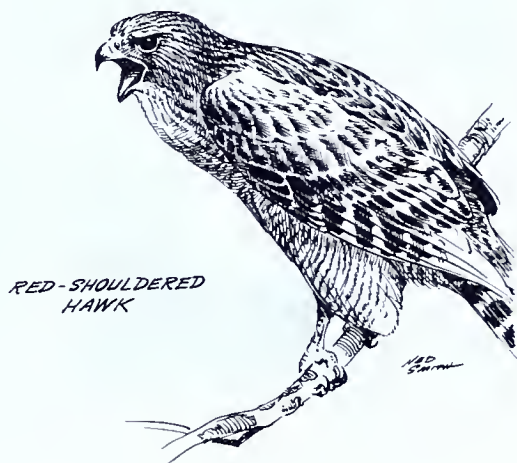
From one slide we traced the loping trail to the top of a miniature peninsula, then down the other side to the ice-covered backwater. Here the otter had enlarged a crack in the thin ice and slipped into the water to hunt for a meal. He found it, for we discovered the heads of four bullheads lying uneaten in the shallow water where he had emerged. Otters usually eat fish head-first, but the bullhead's sharp fin spines apparently call for a different approach, and three of the heads had the spined pectoral fins still attached.

The sky was darkening steadily and when snow began falling about four o'clock I said good-bye to John and the caretaker and headed for home. It was high time. The trip home was a nightmare with half a foot of sloppy snow on the highway and my accelerator freezing at the most inopportune times.

March 22 — The sun is warm and bright, and the snow is nearly gone. From the kitchen window I spied an old groundhog along the line fence and went down to see what he was up to. The ground was a bit soggy for

crawling, but I managed to stay out of sight until I reached the brow of the last rise about 50 yards from his hole.

He stopped eating as I focused the binocular, and stood erect to look around. Then he waddled over to a clump of dry grass and began jerking off bunches of dead blades. At intervals he used a forepaw to stuff the disarranged blades into his mouth,



and when the clump threatened to come out by the roots he held it down with a foot while he wrenched off more of the stuff. Finally he turned and, with dead grass bristling from both sides of his head, padded over to his burrow and disappeared. I quickly moved to a closer location, but the tricky old rascal had turned in the mouth of his burrow for a last look around and saw me. That was the end of the operation, but it would have been interesting to see how many mouthfuls it took to make a proper nest.

March 23—The red-shouldered hawks are still hanging around Powell's Creek. Hearing some crows making a fuss, I stepped beneath a hemlock tree and hooted like a horned owl to see what they'd do. They came in immediately, and with them came one of the hawks. I hooted, the crows yelled,

and the hawk screamed. It wasn't a particularly enlightening experience, but it was loud.

Tiring of the game, I stepped out into the open and the birds let out a few surprised shouts and scattered. Just for kicks I gave a few more hoots and the red-shoulder came swooping back to land on a tree no more than 40 feet away. I was smack in the middle of a small clearing, but he stayed there and yelled at me until I began walking again. From all indications, this should be a likely area in which to look for a red-shouldered hawk nest this spring.

WOOD DUCK



March 25—The big flocks of whistling swans have gone, but a scattered few remain on the river. One lone individual has taken up temporary residence on Mr. Kahler's farm pond. We watched it from the car this afternoon as it preened, stretched and yawned luxuriously. At one point it extended its long neck, laid its head upside down on the water, and quite unexpectedly and gracefully rolled completely over on the water's surface. No trained poodle, urged by its master's command, could have executed the maneuver more perfectly.

March 26—Male cardinals are among the easiest of all birds to call. A whistled imitation of their cheery song invariably brings them in, crests straight up and spoiling for a fight.

They often zero in on the sound with disconcerting accuracy and all but collide head on with the whistler, if he's well concealed.

This afternoon I tried to lure one in, hoping to get a telephoto shot of him all mad and excited. He came in all right, and ran out another male that responded a second later. Unfortunately, he managed to stay between me and the sun in spite of my maneuvering, and I finally had to give up the project.

March 28—The west side of the river from West Fairview down to Harrisburg is a favorite hangout for coots. Today I watched a flock of 30 or so, looking down on them from the Forster Street Bridge as they fed. Diving, they brought up great gobs and streamers of algae which they picked apart on the surface, apparently finding snails or other tidbits therein and eating much of the alga itself. The current at this point is rather strong, and between dives the coots were forced to lean into it and employ long, alternate strokes of their lobed feet to maintain their positions. A passerby, noting their long strides and solemn backyard glances, remarked that they looked like so many Groucho Marxes—and they did!

March 29—Jack brought in his hollow log feeder—the one that converts into a birdhouse in spring by inverting it—and found it already occupied. A white-footed mouse nest filled the bottom portion beneath the baffle that diverts the feed. Investigating, he found three generations at home—an adult mouse, a litter of half grown young, and another litter of red, hairless, infants! No wonder mice get along in this world. Rapid fire reproduction, and an unlimited supply of sunflower seeds overhead. How could they miss?

Hunters' Money

Every hour of every day, shooters pump \$170,000 into the U. S. economy.

Brush vs. Bullets



SCATTERED SQUARES SHOW where some bullets fired through dense brush pile hit during Lewis's test firing.

By Don Lewis

Photos by Helen Lewis

"**S**EE YOU in a couple of hours," quipped Harry Montgomery. "I still wish you'd have taken my old 35 Remington. The cover is pretty heavy in this section."

"I'll be in good shape," I answered. "I won't be in any hurry, and I'll make sure I pick a good open shot."

Harry's concern was due to my using a 243 caliber. I'm never overconfident, but I did feel that on the first day of the antlerless season I should be able to take the shot that suited me.

When daylight broke through the wooded area, it was very clear to me that I would have to use extreme care if I expected to get a 100-gr. bullet through the maze of brush and saplings. Normally, I wouldn't use a 243

for this type of cover, but I had expected that our hunting would be done in the fields. Since Harry believed that deer would be passing through this stand of heavy timber, he suggested that we hunt the first couple of hours in it. I knew I had the wrong rifle, but I had no intentions of firing unless I felt I could make a clean kill.

An hour passed without any sign of deer, but distant shooting told me that some hunters were finding game. When a rapid volley rang out close to me, I had hopes. Then two does came sneaking through the brush about 50 yards from me. They stopped to look around. After I had studied each deer carefully, I chose the smaller one. I even raised my eyes above the scope to see if there were

any limbs or small saplings that might deflect the bullet. Satisfied that everything was clear, I placed the cross hair on the chest area and squeezed the trigger. Instead of hitting the ground when the rifle cracked, the doe just stood there for several seconds and then tore off through the



BRUSH PILE admittedly was thicker than usual deer cover, but this made it easier for Lewis to carry out his tests.

woods. I was so certain that my bullet had found its mark, I didn't reload but kept my gaze on the running deer, fully expecting it to pile up after every jump. This wasn't the case, and I never did see those deer again.

There was no snow, and I had trouble locating just where the deer had stood. After twenty minutes of fruitless hunting for signs of a hit, I gave up and walked back to my stand. Ten feet from where I had shot, a limb the thickness of a lead pencil dangled teasingly in the morning wind. I studied it for some time and wondered if this one small limb had caused me to miss an easy shot. I spent another twenty minutes trying to reenact my shot, but it was impossible to determine anything precisely, and I never did convince myself that my bullet had been deflected by the limb.

Ever since the advent of the 250-

3000 Savage back about 1915, fast flying, lightweight bullets have been exploding upon contact with anything from tiny twigs to blades of grass. At least that's what they tell us. The mere mention of a 100-gr. bullet brings a clucking of the tongue and a shaking of the head from those who think only in terms of 180- and 220-gr. bullets. I have had many stories related to me where a lightweight bullet exploded against a deer and completely failed to penetrate. Even though these stories were told in good faith, they were far from the truth. Any time a 100-gr. slug strikes a big game animal, it will certainly do more than just explode. It's common knowledge that the lightweight bullet doesn't have the penetrating ability that the heavier thick-jacketed one has. For one thing, bullets under 100 grains in weight are intended primarily for small-boned animals.

These bantam bullets do a whale of a job on foxes, chucks, and crows. They're constructed in such a manner that they disintegrate when they strike even the smallest bone. They are not supposed to hang together. I have dug dozens of bullets from the hill behind my target house, and it's rare to find a 224, 243 or 257 bullet intact. About the only evidence found is fragments of the thin copper jacket. On the bigger jobs, it's a different story. Their jackets are thicker, and are designed to peel back and expose the lead core so it can expand, but not to blow up. This causes tremendous shock while the bullet pushes deeply into the animal. This is what is needed when a rump shot or direct shoulder shot is made. The 220 Swift, 222 Remington, and even the little 22



Hornet and 218 Bee have dropped a number of deer, but I can't recommend these rifles for big game hunting. I have my doubts about 6 mm and 257 bullets under the 100-gr. mark.

Vital Question

It seems to me that one vital question about bullets of all sizes remains unanswered. How much brush will each bullet push through before it either explodes or deflects? I know that I have thought about it a number of times, and when I think of that one small twig, I wonder if a 100-gr. bullet would fall victim to so little interference. As a chuck hunter, I have had plenty of experience with the smaller bullets in a variety of calibers. I've seen them do some strange things—things they're not supposed to do. I remember shooting through both shoulders of a large chuck and then digging the bullet, still intact, out of a log 20 feet from the chuck. Design or no design, that particular bullet stayed together and failed to disintegrate. This is an exception and not the rule. It helps back up my theory that "a blade of grass" will not explode every light, fast bullet.

But to show how firmly some hunters believe in this "exploding bullet" theory, allow me to offer you some real proof. Some years ago, I was chuck hunting with a friend. The field we were in had been cut earlier and the new hay had reached a height of three to five inches. To get my car off the road, I parked it along the edge of the field. We sat in the shadow of the car. The car was white, and my friend and I had blaze orange caps on, and I know we could be seen for a mile.

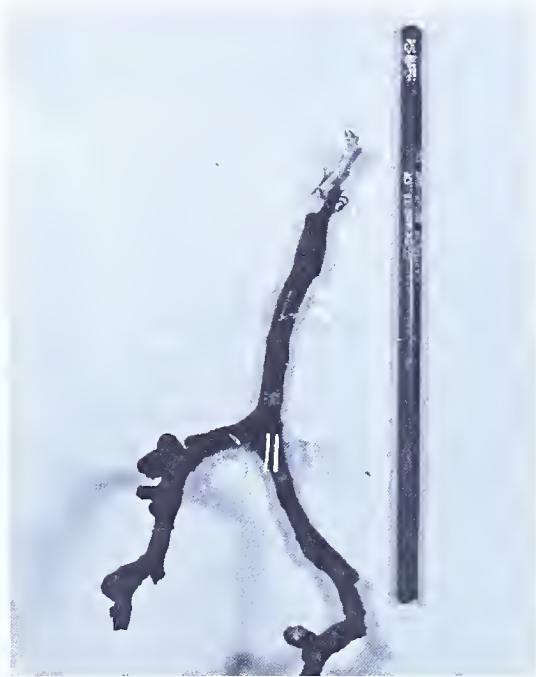
As the evening wore on, a small chuck came out about 200 yards from us. Since it was so young, we made no attempt to shoot. A short time later, a car came up the road and stopped. Two hunters jumped out and one threw a sandbag on the ground. The

other fellow placed his rifle on the sandbag, aimed for several seconds, and fired. I jumped to my feet, waved my arms, and yelled, as he was shooting in our direction. Scared and hopping mad, we headed for these two road hunters. When I asked if they were aware that they had fired in our direction, the one fellow broke out laughing. After awhile, he managed to get out something about our being pretty dumb to think he would shoot toward us with an ordinary rifle. He was using a custom gun for chucks, he explained. This special rifle threw its bullets so fast that the bullet exploded the instant it struck a weed, piece of hay, or a dandelion stalk. He claimed we had been as safe as two peas in a pod.

I didn't share his thinking in this matter, and a look at his custom outfit—a 219 Zipper with a \$12 scope—didn't change my mind. The old Zipper is a good load, but not that good. Lightweight bullets can't stand too much resistance, but never assume that a

CLOSE-UP OF TARGET shows how one bullet (note expansion at front end) key-holed after hitting brush and entered target sideways.





PENCIL-SIZED limbs had little effect on large-caliber bullets, but two such limbs usually put 100-gr. 6 mm bullets off target.

weed, blade of grass, or bunch of clover will cause the bullet to disintegrate. Remember, your backstop is really more important than your target!

Now that another big game season is behind us, the excuses are making the rounds and among them is the tiny twig story. I know they are excuses, but every time I hear this alibi, I think of that little doe in Harry Montgomery's woods. I still hear Harry saying that I would have had my deer if I'd been using his 35 Remington. There is no way of proving that, but I became so intrigued by all these little twig tales that I decided to conduct some tests of my own. I knew I could not duplicate an actual hunt setup, but I thought the least I could do was to shoot through some brush to see what would happen.

To make the test a little more realistic, I used a Running Deer type target. I built a large brush pile of fresh apple limbs that ran from twigs to boughs about an inch thick. When I had finished, I had a test site that

looked dense enough to give any bullet trouble. From 50 yards away, I could just make out the outline of the deer, and I felt that only a 348 or 35-caliber slug would ever hit the target 12 feet behind the brush pile. I decided that any bullet that got to the target without hitting any brush would not be counted.

I chose the 243 with a 100-gr. slug for my first test. I aimed at the front part of the deer and fired. To my surprise, the little bullet zipped neatly through all the brush and caught the buck smack on the shoulder. My second shot struck the edge of a limb that was over a half-inch thick. This was exactly the type of shot I had hoped to get. This was the shot that reportedly always made the hunter miss his game. The only catch was that this bullet didn't ricochet or disintegrate. It cut a deep gash in the limb and sailed right through the deer's rib cage. I saved that limb with the hope that I might win a few arguments. The third shot ran into real trouble. It struck a large limb dead

MOST BULLETS remained intact after nicking a limb about the size of a 12-gauge shotshell.





THICK SLASHINGS such as this are typical cover for Pennsylvania deer.

center, cut off several small twigs behind the limb, and blew itself sky high. The target had 27 holes in it ranging from pinhead to BB size. I'm sure a hunter would have only wounded his game on that shot. I fired a dozen or more rounds, but the results didn't vary much. It became evident that the large limbs were just too much for the 100-gr. bullet, but I discovered that striking a small branch or nipping the edge of a light limb didn't always cause the bullet to veer off course or explode.

I switched to the 30-06 and the 150-gr. bullet. After getting some new brush on the pile, I fired directly into it. Slivers flew into the air when the rifle cracked. This was a dandy shot, as it hit five or six different sizes of limbs. The hole in the target was in line with where I had aimed, but it was easy to see that the bullet had begun to tumble. The hole it tore behind the target convinced me that it still had plenty of power. I kept firing the '06, switching from 150-gr. to 180-gr. bullets, but the results stayed pretty much the same. Most bullets hung together and struck somewhere on the deer, but the more wood they passed through, the greater the

chance of flying apart or tumbling. Once I increased the density of the pile and fired three 180-gr. slugs through it without stopping. The results really surprised me. All the bullets struck a fatal area, and only one of them had started to tumble.

I ended this test by shooting 10 shots from a 348 Winchester with the 200-gr. slug. I fired five shots through the type of brush I had been using, and the only indication of resistance that I saw was that one bullet hole was elongated. To add some real stoppers, I beefed the brush pile with heavy limbs, rough boards, and several chunks of 2 x 4s. I don't need to go into detail about how the old 348 slug rips through brush, but this was more than I had asked for. Not only did my first shot hit a large limb, but it also tore through several of them and sliced a deep gash in a 2 x 4. How I wish that shot had been at a live buck! I caught the target buck right on the shoulder where I was aiming. I fired the last three shots as fast as I could slam them through the rifle. I hit heavy wood on every shot. Two of the bullets got into the deer's body, but the other one broke in two pieces and sailed over its back.



HARRY MONTGOMERY and Don Lewis study deer barely visible through brush.

Not entirely satisfied with the first test, I conducted a second one on the same principle. This time I threw in the 22 Hornet and a 222. It took only a few shots from these chuck rifles to satisfy me that chuck hunting was what each one was designed for.

As I said before, it's next to impossible to duplicate a hunting shot in a test. For this one reason, any test could be classified as unfair or misleading. As far as I was concerned, I wasn't out to prove anything conclusively. To begin with, how do you know when you have fired enough shells to prove that a 100-gr. bullet will or will not do this or that? How many limbs do you have to shoot through to show that the 150-gr. 30-caliber bullet will blow? There are so many factors involved that to say

this was proved or something was disproved is pure folly. Keeping in mind the expense of several hundred rounds of ammo, and the hours of hard work involved, I accepted the results of my two tests as good indication that the average high-powered bullet can tackle a good bit of brush and come out the winner. I don't know if I proved anything, but I'm convinced that I won't pass up any shots at deer standing in light brush or grapevines. Now that the tests are over, I believe that not too many deer are missed due to bullet blow up.

If you have any doubts about my findings, grab a box of shells and conduct your own test. It might just indicate that the deer you missed was due to poor shooting rather than to some harmless little dead twigs.

The Eleventh Commandment

During a recent sportsmen's federation banquet, one of the speakers remarked about the Ten Commandments of Hunter Safety. He suggested that an eleventh commandment be added to the original ten. This should read: "Be very choosy in selecting your hunting companions."

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COVER PAINTING BY RON JENKINS

In this issue Ron Jenkins, nationally recognized wildlife artist whose primary interest is birds of prey, begins a series called "Hawks Across Pennsylvania." Oriented primarily toward our younger readers, it is hoped that these articles will impress our youth with the intrinsic value of these birds and help them to understand the hawk's role in nature's overall scheme. It is fitting that Ron's first subject is the duck hawk, for this beautiful falcon, also known as the peregrine or wanderer, is the finest product in the evolution of this class of birds. Though not common here, some duck hawks are still to be seen in Pennsylvania.

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Do We Need 35,000,001?

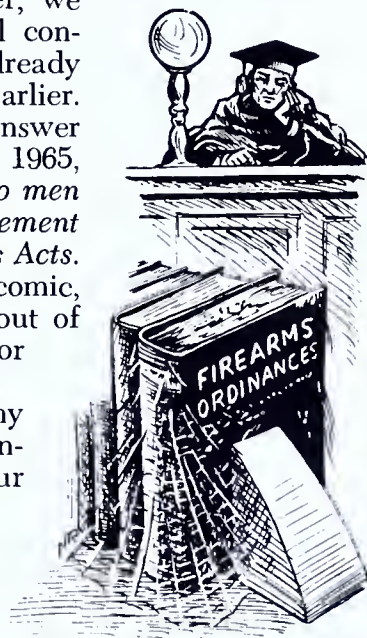
AT PRESENT, in the United States, there are some 20,000 federal, state, county and city laws and ordinances on firearms. The best known of these are the Federal Firearms Act of 1938 and the National Firearms Act of 1934. The former, as amended, controls the movement in interstate or foreign commerce of firearms of all types and handgun ammunition; the latter, as amended, imposes a tax and requires registration upon the making or transfer of machine guns and certain other kinds of firearms.

You will note that the newest of these is now 30 years old. Three decades. One generation. That's a long time for legislation to be in effect without normal enforcement. But federal agents recently made their first case on mail order abuses through a section of the Federal Firearms Act of 1938. United States Attorney Robert Morgenthau successfully obtained a federal grand jury indictment against a Nanuet, N. Y., firearms dealer, charging the mail-order house had violated the 1938 law by shipping guns to individuals in other states who had not produced the required state or local licenses or permits. The longtime antigun *New York Times* stated: "The indictment was described as the first of its kind in the country against a mail-order company dealing in firearms."

What have those federal agents been doing for the last 30 years? Apparently, they are either grossly inefficient or there was no real need for that nearly all-inclusive law in the first place. Or there is something about the whole situation which could stand some looking into.

The truth of the matter is, both of the above-mentioned laws are good ones, laws that no responsible hunter or shooter would, or ever has, disputed. They cover almost 100 percent of the possible firearms abuses, including those for which various legislators have been claiming new laws were needed. The breakdown in the entire system is in the field of enforcement. We admit there is illegal and criminal use of guns. However, we say (and any objective study of the situation will confirm this) that laws covering these situations already exist. More than 20,000 of them, as mentioned earlier. Simply adding new ones means nothing. The answer is to enforce those we have. During hearings in 1965, Treasury Department officials admitted that *only two men and three women were assigned full time to enforcement of both the 1938 Federal and 1934 National Firearms Acts*. This is ridiculous on the face of it. It would be comic, except that results of anti-gun legislation growing out of the efforts of a determined few would be tragic for law-abiding gun owners.

Too many people believe that the solution to any problem is just a matter of passing another law. Unfortunately, that isn't how life works. If it were, all our problems could be solved simply. But perhaps it does explain another nearly incredible fact: that in this country we have some 35,000,000 laws—trying to enforce the Ten Commandments. Do we need any more?—*Bob Bell*





R. Jenkins



HAWKS

across
Pennsylvania

By Ron Jenkins

The Pennsylvania Duck Hawk

(Falco peregrinus)

Most of us interested in Pennsylvania's outdoors know something about the hawks, owls and eagles which live with us. Few, including many of our seasoned hunters, outdoor writers and fishermen, know enough. There isn't time to run for the reference books when one of the raptors is observed, so this series is intended as a handy refresher to stimulate interest in the birds of prey, and to create some further study and conservation efforts favorable to them.

RISING HIGH, on air currents known only to his kind, ever widening circles take the duck hawk beyond the limits of human eyesight. Up there, in his world, the peregrine waits, scanning the valley with powerful binocular eyes.

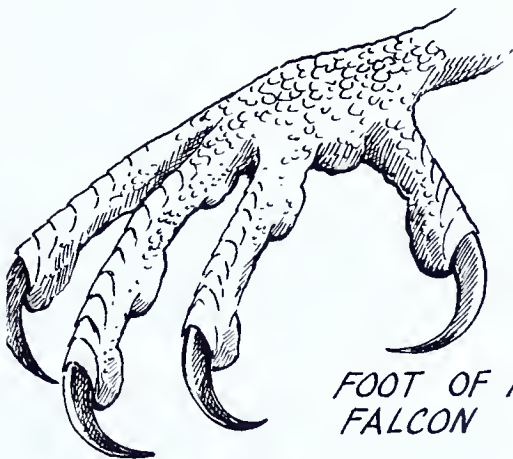
A crow crosses the wide expanse below, unconscious of the danger above. A simple roll-over, a few quick pumps to gain momentum, and downward through the sky on half-closed wings—he is coming!

Rushing air slips by a wedge-shaped head, over stiff, fuselage-smooth feathers, as the peregrine rockets toward the crow in an awesome stoop which may exceed 200 miles an hour.

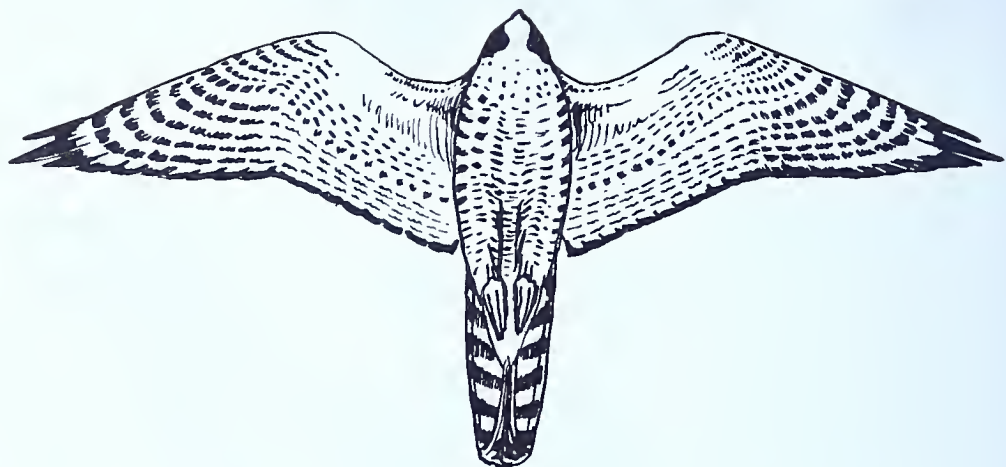
The resulting collision usually leaves the intended victim lifeless, or so stunned that it is killed immediately upon reaching the ground, amid a shower of softly floating feathers.

Anyone who has been treated to this aerial display of a Pennsylvania peregrine falcon is among a select few. Duck hawks are declining in numbers, even thought by some to be extinct in our Commonwealth today.

Built by nature for his life as an air-to-air missile, the duck hawk rarely chooses prey on the ground. His nostrils are developed with a baffle system, similar to that of jet plane en-



FOOT OF A
FALCON



THE DUCK HAWK often rides air currents beyond the limits of human eyesight, only to plunge toward his target at speeds beyond 200 miles per hour!

gines in principle, which enables him to breathe during one of these terrific stoops, or dives. His feathers are stiff and smooth for least wind resistance.

The great feet of a duck hawk are also specially developed, with extremely long toes which enable him to actually pluck smaller birds, such as pigeons and blue jays, from the air without missing a wingbeat.

A peregrine has been clocked by a plane, which it passed in flight, as exceeding 175 miles an hour. Many believe it can surpass 200 mph. Actual timing with a stopwatch gives him credit for 125 mph in level flight.

The peregrine falcon has often been called the perfect flying machine. It is revered by falconers and bird watchers of today, as religiously as it was by the noblemen of yesteryear,

who flew them at quarry when falconry was a regular part of a way of life.

This falcon is about the length of a crow, but has a greater wingspread. Blue-gray above, it is white with black barring below. It once was present in fair numbers along the large rivers in Pennsylvania, among the lofty cliffs with a wide view of the valleys below. Part of the reason for the species' rapid decline is thought to be the increased use of pesticides which are taken into their system through prey species.

Some peregrine falcons may still be seen on the flyways during fall migration. The peregrine is one of the world's most magnificent birds. For Pennsylvania to be able to claim him as a resident, is merit in itself.

Where Did They Spend Their Time?

Outdoor sports, such as recreational shooting, can be effective preventatives against juvenile delinquency. Judge William G. Long, of Seattle's Juvenile Court, who heard 45,000 cases over a 20-year period, says that not one of the boys or girls that came before him had a wholesome outdoor hobby.

2 Plus 2 Plus . . .

In 1890, the entire deer population of North America was estimated at 500,000. Now, the deer population in Pennsylvania alone is about 650,000.



TIME EXPOSURE SHOWS how other stars appear to revolve around Polaris, the North Star. Straight streak was caused by a meteor.

Stargazing

By Eugene R. Slatick

STARGAZING is an ancient pastime. Men have gazed at the stars for thousands of years and have seen mythological characters in their patterns and prophecies in their movements. Early man probably knew the night sky far better than you or I. But then his nights were free from the lure of television and the glare of city lights. Today, interest in the stars is being renewed, thanks to the recent space adventures. Too often, however, stargazing is an overlooked part of outdoor lore, and that is unfortunate. It can enrich a hunting or camping

trip, or a summer evening spent cooling off under the night sky.

Stargazing is easy. A clear night and a star chart are all you need. A binocular is very useful, and so is a spotting scope or other telescope, but there is a lot to see with only the naked eye. A flashlight covered with red cellophane, or similar material, gives enough light to see the star chart. Don't use a bright light because your eyes have to adjust to the darkness each time the light is turned off—and the eyes take about 15 minutes to really adjust.



EVEN A LOW-POWER binocular will reveal many stars invisible to the naked eye. Here is part of the constellation Orion, the Hunter.

The most familiar object in the night sky is, of course, the moon. People see all kinds of pictures in the moon—faces, animals, etc. In the past the moon was even thought to be a huge mirror reflecting the image of the earth.

The true nature of the moon becomes strikingly clear when you see it through a good binocular or even a low-power field glass. The face of the “man in the moon” now changes into craters, mountains, and dark regions called “seas.” The best time to see detail is when the moon is in one of its phases; a full moon is too bright. As the moon goes through the phases, different details are highlighted.

If you observe the moon carefully

over a time, perhaps even making a drawing of some of the larger features, you may notice a slight change in what you see. For example, some features are nearer the moon’s edge at one time than at another. This is because the moon wobbles a little. Because of this, we really see more than just half of it, over a period of time.

A fascinating illusion of the moon is that it appears larger when it is near the horizon. It does not change size, of course. The appearance varies because it is seen in reference to earthly objects, when low, rather than being alone in the sky.

Giant Step

Our gaze can switch from the moon to the stars with no trouble. But in doing so we really take a giant step out into space, for the stars are so fantastically far from us that their distances are measured by the time it takes their light to reach us. And light travels at a speed of some 186,000 miles a second, about six trillion miles a year. The closest star is a little more than four light-years away—about 26 trillion miles. When you look at the North Star you are looking at the star the way it was about 50 years ago, for that’s how long it takes the light to reach us. By contrast, light from the sun reaches us in only eight minutes.

On a moonless night you can see about 2000 stars with the naked eye. Using a binocular you can see about 100,000. Over the year the new seasons bring different stars into view, making a total of approximately 6000 that are visible with the naked eye. The stars rise in the east, appearing about four minutes earlier each night.

Except for difference in brightness, the stars appear to be generally the same: white points of light against a dark background. But if you look carefully you will see that some stars are colored. The color is a guide to a star’s temperature. Bluish-white stars are the hottest (40,000° F. or more),

next are white stars ($20,000^{\circ}$ F.), then yellow ($11,000^{\circ}$ F.), orange (7500° F.), and red (5500° F.). By comparison, the sun's average temperature is $11,000^{\circ}$ F.

The 88 constellations are the framework of the night sky. These are groups of stars forming certain shapes. Over the course of a year about 70 are visible in Pennsylvania. The constellations in the northern part of the sky, such as the Big Dipper (part of Ursa Major, the Great Bear) and Cassiopeia, are visible all year. Those more southward are seen best during certain seasons. Orion, the Hunter, for example, is seen best in the fall and winter.

Celestial Puzzles

The constellations are really celestial puzzles to test your imagination. You find the various stars, connect them with imaginary lines, and then try to see the figure that is supposed to be there. It could be anything—a lyre, a bear, a person. After you have unraveled a few constellations you will probably have to admit that the people who named the constellations had vivid imaginations.

The stories behind the constellations are fascinating. If you like legends, you'll find the constellations rich reading. In one Indian legend, for example, the Big Dipper represents a bear hunt. The bowl of the dipper is the bear, and the three stars forming the handle are the hunters (the second star has a small companion star that represents a dog). The hunters pursue the bear throughout the year and finally kill it in the fall. The bear's blood trickles to earth, reddening the leaves on the trees. There are several other stories about the Big Dipper, all equally imaginative.

The Indians have several legends about the Pleiades, an attractive cluster of stars that looks like a small dipper. According to one, the seven stars in the cluster are really seven wise men who were placed there by



THE PLEIADES: in one legend the seven daughters of Atlas — Alcyone, Celaeno, Electra, Maia, Merope, Sterope (or Asterope) and Taygeta.

the Great Spirit. When the wise men were on earth they could not find the seclusion they wished for. They changed into rocks and trees, but still they were discovered and bothered. Finally, the Great Spirit, taking pity on them, lifted them into the sky, where we can see them today. In a legend of the Greeks, the Pleiades are seven sisters who were changed into doves to escape the clutches of Orion, the Hunter, a nearby constellation.

Of the several nebulae shown on most star charts, only the Great Nebula in the constellation Andromeda is visible to the naked eye. It appears as a hazy patch, even with a binocular or spotting scope. The glare of city lights can make it difficult to locate.



THE BIG DIPPER, visible all year, aids outdoorsmen, as a line through the two front stars of its cup points to the North Star, which gives direction.

Light from the nebula takes two million years to reach the earth.

The Milky Way, the hazy band spanning the sky, is easier to see. A binocular will reveal some of the stars in it. The Indians believed that the Milky Way was the road to the land of the spirits.

The planets are the wanderers of the night sky. Their positions with respect to the stars change over several nights. Of the eight other planets in our solar system, the ones that are seen most commonly are Venus, Mars, Jupiter, and Saturn. They all become morning or evening "stars" at some time during the year. One way to distinguish a planet from a star is to watch the light—if it twinkles it is a star, if it shines rather steadily it probably is a planet. The planets are lo-

cated in the part of the sky that the sun passed through during the day.

Venus, the brightest planet, is well known as a morning and evening star. At certain times a good binocular will reveal some of the phases that the planet goes through. As with the moon, there are crescent and half phases, depending on the planet's position between the earth and the sun.

Mars appears only as a small reddish star to the stargazer. A large telescope is needed to see any detail.

Jupiter, on the other hand, is bright and very interesting. Four of its 12 moons are visible through a binocular; they look like small stars spread out in a straight line. You can watch them change positions over several nights because they revolve around the planet in times ranging from almost two days to 17 days. Galileo discovered these moons in 1610. They can be an exciting discovery for the stargazer.

Saturn, the ringed planet, is too small to see very well with a binocular; it appears oval- or egg-shaped due to the ring. A spotting scope, however, will reveal the ring. It is a marvelous sight.

Shooting Stars

The briefest things appearing in the night sky are the meteors—"shooting stars." These fiery celestial flashes are caused by the burning of material from outer space as it falls through the earth's atmosphere. Most disintegrate in the sky, but a few succeed in reaching the earth. Eight have been found in Pennsylvania. In general, several meteors flash across the sky each hour. At certain times of the year there are meteor "showers," when up to 50 meteors can be seen in an hour. The best known showers occur about April 20, August 10, November 8, and December 10.

Man-made satellites look like stars. Their slow movement across the sky can make you wonder if your eyes are playing tricks on you. Sometimes, however, that moving "star" turns out

to be a high-flying airplane.

Knowing a few things about the night sky is not only satisfying but it can be useful. You can, for example, use the stars to get directions when there are no familiar landmarks. To locate the North Star, find the Big Dipper and draw an imaginary line through the two stars forming the part of the cup opposite the handle. These stars are called "the Pointers." Extend the line upward for a distance equal to about four sides of the cup and you will meet Polaris, the North Star.

Use Moon for Directions

You can also use the moon to find directions. A line drawn upward along the shadow of the half moon or connecting the horns of the crescent moon points in a northerly direction. If the moon rises after the sun sets, the bright side of the moon is to the west. If the moon rises before the sun, the bright side is to the east.

If you want, you can even learn to tell the time by the stars. And when you become familiar with the constellations, you will be able to watch the night sky change with the different seasons.

Your stargazing can be helped by visiting a planetarium. There you will be given a guided tour of the stars. There are numerous books and several magazines about astronomy, and your librarian will be able to suggest some to match your interests. Many almanacs and some newspapers list the



THE MOON, too, can indicate direction. A line drawn upward along the shadow of a half moon, or connecting the horns of a crescent, points north.

morning and evening stars (the planets) and some of the major astronomical events.

Except for a few cloudy periods, the night sky is always there to see, waiting to be gazed at, ready to stimulate your sense of wonder. Look at it soon.

Ducks Unlimited

It takes twelve million acres of wetlands to support the duck population of North America. Twelve million acres is roughly equal to a strip of land ten miles wide running from Maine through Florida. Ducks Unlimited, a non-profit organization dedicated to the perpetuation of ducks in North America, has been maintaining millions of acres of wetlands suitable for waterfowl habitat. This organization and its programs are financed by contributions from conservation-minded sportsmen.



MALLARD NESTING

By Bob Latimer

WHEN A PAIR of ducks reaches its northern destination in the spring, whether it is on Mitcheltree's Island or Heller's Island on the Susquehanna below Williamsport, a beaver dam in Sullivan or Bradford County, or a prairie pothole in Manitoba, they pick out a loafing area on some body of water. This is where most of the honeymoon is spent, perhaps near an old log along the edge of the water or a sandbar along a stream. Here they loaf during most of the day sleeping, feeding, preening their feathers, etc. During this time the drake will allow ducks of other species to invade their privacy, but will not allow those of his own to do so. The territory he polices takes in the resting place itself and for some distance around it. He is quite chesty about this and immediately does battle with any others of his own species that attempt to come close.

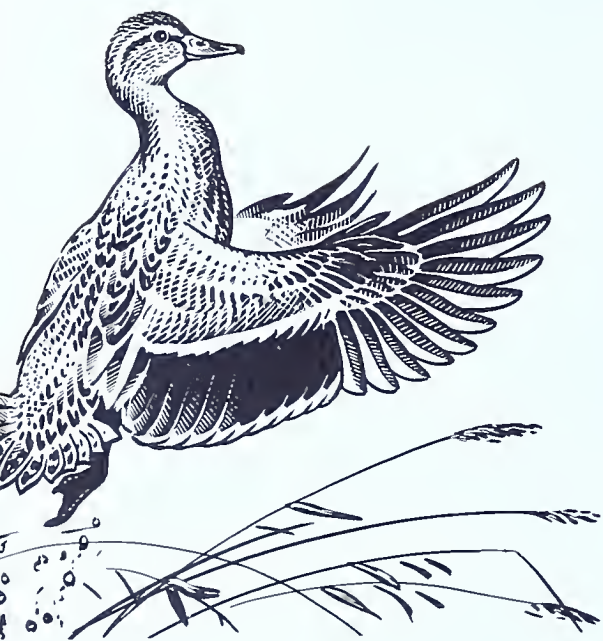
Shallow water ducks, such as mallards, blacks, pintails and teal, usually nest on land, and the nesting site may be located anywhere from the water's edge to a mile from any water. The canvasback, redhead and other diving ducks normally nest over water in the marsh, which may be from ankle deep to several feet. They pull dead flag, marsh grass, etc., together into a mound above the water and on it hollow out a nest. The nesting habits, length of incubation and other things relative to this vary quite a lot by species and would take too much space to cover here, so I'll limit the rest of this article to the mallard.

The mallard's nesting site may be from a few yards to a mile from the loafing area. Eggs are usually laid early in the morning. During the laying period, the pair will take off about daybreak for a morning flight. For from 15 minutes to maybe an hour

they will fly together in large circles. Then the hen will peel off and light maybe 100 yards from the nest. She will stand alert and very still for a little while, then sneak with her head down through cover to her nest. It is thought she does this in an effort to keep crows and other predators from locating the nest. She remains there only long enough to deposit the egg. This may be from a few minutes to close to an hour. After that she will sneak away a distance and again take off in flight to rejoin her mate at the loafing site till next morning, when the procedure is repeated until the full clutch is laid.

Shallow Depression

A mallard's nest isn't much to start with, merely a shallow depression in the dirt which the hen has hollowed out under some overhanging cover. During the first few days she spends there, she makes little effort to improve it, merely reaching out with her bill to pull up dead grass and weeds, or whatever she may be able to reach around her. Her usual clutch is from 8 to 12 eggs. After she has laid about two-thirds of these she will start to "down-up" the nest. This she does by pulling down from her breast and depositing it in the ring of grass and weeds she has made around her. After the incubation period starts, she uses this material to cover the eggs to prevent chilling while she leaves each day to feed. Her feeding period will vary in length. On cold days she may only be gone a few minutes, but on warm days it may be for an hour or more. The incubation period for mallard eggs is about 26 days and she may keep the ducklings under her on the nest for another 24 hours or more, depending on the weather—at least until they are well dried off and strong



THE MALLARD HEN remains only long enough to deposit her egg, then sneaks away and takes off to rejoin her mate. Her usual clutch is 8 to 12 eggs, and their incubation period is about 26 days.

enough to travel without any trouble.

When the hen starts incubating and no longer comes back to rejoin her mate at the loafing site, he realizes the honeymoon is over. Accordingly, he looks up some other males in the same boat, they join up with still others and gather on some water area where the water is shallow and with plenty of emergent cover. This may be many miles from their old loafing areas. Here they moult—shed their wedding clothes—and go into what is known as their eclipse plumage. This is quite drab in comparison to what they have been wearing. They maintain bachelor's quarters here the rest of the summer. So you see, the cares of the family are left to "Suzie." After she has the ducklings hatched, she leads them to water, raises them, gives them their flight lessons and teaches them the many things they should know. In addition to this, she has to moult and regrow new flight feathers. She is indeed a busy old girl all summer, and I wish her well this year!

No Place to Go, Anyway

Flies, butterflies and beetles on Kerguelen Island in the South Indian Ocean cannot fly. Wings are either nonexistent or stunted.

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All Photos from U. S. Dept. of Agriculture, Soil Conservation Service

SOIL CONSERVATIONISTS DISCUSS plans for planting strip mine spoil area in Schuylkill County. Vegetation would give cover for small game as well as help eliminate the eyesores left by strip mining.

Mine Spoil Revegetation

By Clayton L. Heiney and Ernest L. McPherron

THE UNDESIRABLE features of strip mining can be remedied or minimized. When stripped areas are properly backfilled and covered with suitable vegetation, the aesthetic value of the landscape often can be recaptured. This is helpful in attracting new industries and tourists, making the area more livable for its citizens, and creating wildlife habitat. A permanent cover of vegetation also retards runoff and erosion and reduces the possibility of stream pollution from acid or other harmful substances, thereby improving water quality.

Strip-mined areas can be made suitable for a variety of uses. These may

contribute economic values to the landowner and the general public. Reforested areas can add to the existing timber supply for new industries. Restoration may improve the stripped areas for agricultural use. Revegetated areas can provide food and cover for wildlife, with obvious advantages to hunters. Strip-mined areas may also offer opportunities for homes and industrial parks, water impoundments, or recreational facilities.

But revegetation of anthracite mine spoil often is a difficult task. Spoil banks are composed of freshly exposed rocks and raw mineral soil. They are bare, unnatural sites that require spe-



LOCUST PLANTINGS, being examined here, give a good canopy to hide unsightly areas and, placed in rows, help stabilize steep slopes.

cial treatments and techniques for successful revegetation. However, despite the ominous appearance of spoil banks and the difficulties involved with revegetating them, the job can be done. Natural revegetation is slowly taking place on many of these areas, but very often it has no reasonable chance at all due to extreme conditions. The process of revegetation can be speeded by direct plantings and seedings.

Mine spoil varies in its physical and

chemical characteristics, and each area of spoil must be classified and planted accordingly with vegetation that can tolerate specific conditions. The major factors that affect revegetation of spoil are acidity, stoniness and steepness of slope.

The following is an account of evaluation plantings on strip-mined areas in Schuylkill County.

In 1959, Ken Mettam and Michael Potts of the St. Clair Kiwanis Club took action regarding the strip mine problems at St. Clair. They requested help from the Schuylkill County Soil and Water Conservation District. Subsequently, the U. S. Soil Conservation Service was called upon for planting recommendations for covering and stabilizing the denuded lands that were the result of anthracite strip mining.

During the next year, Soil Conservation Service conservationists studied and classified the spoil. It was found to consist of a mixture of subsoils, sandstone, slate and coal fragments deposited by dumping. It was further characterized by partial grading and steep slopes of 100 to 200 feet in length. Chemical analysis of the spoil material showed variation in pH (acidity) from 4.5 to 7.0. It had a very

Table 1. Species Showing Best Protective Ground Cover

Species	Seeding Year % Cover	2nd Year % Cover	3rd Year % Cover	4th Year % Cover	5th Year % Cover
Tall Oat Grass _____ (<i>Arrhenatherum elatius</i>)	15	20	40	20	15
Indian Grass _____ (<i>Sorghastrum nutans</i>)	Trace	25	40	40	60
Blackwell Switch Grass _____ (<i>Panicum virgatum</i>)	Trace	10	30	15	25
Crown Vetch _____ (<i>Coronilla varia</i>)	5	15	60	90	90
Birdsfoot Trefoil _____ (<i>Lotus corniculatus</i>)	10	25	50	70	70
Wagner Flat Pea _____ (<i>Lathyrus sylvestris</i>)	10	30	40	50	50



IN ABOUT FOUR YEARS, crown vetch (left) gives 90 percent ground cover on strip banks, while tall oat grass (right) is losing some effectiveness at this time, after reaching about 40 percent cover in three years.

low content of nitrogen and phosphorus and a low content of potash. Slides caused by freezing and thawing and rill erosion also were common.

Natural reseeding was taking place very slowly due to extreme climatic and soil conditions. There was also very little available seed from natural vegetation to invade the area. Consequently, there were only a few scattered woody plants, mainly gray birch and aspen, and small patches of sweet

clover on areas where the spoil was neutral.

Plantings were started in 1960. Machine planting was impossible because of the steep, irregular topography and the haphazard mixture of large stones with the finer materials. For this reason, all woody species were hand planted and the seeded species were broadcast in the spring. Labor was supplied by the Borough of St. Clair, and the Kiwanis Club purchased fer-

Table II. Species Showing Best Survival and Canopy Development

Species	% Survival	Height In Feet	Crown Spread In Feet	Eff. Ground Cover Spread In Inches	Rank
Speckled Alder (4 years) ----- (<i>Alnus incana</i>)	100	8	4	0	5
Indigo Bush ----- (<i>Amorpha species</i>)	75	4	3	0	6
Autumn Olive ----- (<i>Elaeagnus umbellata</i>)	100	6	4	24	2
Shrub Lespedeza ----- (<i>Lespedeza bicolor natob</i>)	100	7	3	0	3
Pine Species ----- (<i>White, Scotch and Black</i>)	80	2	1	1	4
Bristly Locust ----- (<i>Robina hispida</i>)	100	6	4	240	1



E. L. McPHERRON examines good stand of Indian grass, frost seeded on outer slope of strip mine spoil. This is best grass cover of all grass species seeded. Right, **Norris Judey** looks over speckled alder plantings.

tilizer and tools for the project.

Since 1960, 97 species and vegetation have been planted on the area. Eighty-three species of woody materials were hand planted. Five species of woody materials and nine species of herbaceous ground cover materials were direct seeded by broadcasting. All seedings were made in the spring with a complete fertilizer. No mulch was used.

After seven years of observation, several species have survived. Many species are deteriorating because they are not adapted to the low-quality spoil sites. Some rodent damage has occurred, but is not considered serious. The nitrogen fixing plants appear to be the most promising. They are more easily maintained and usually provide more vegetative cover.

The plants with the most favorable growth characteristics are shown in accompanying tables. One group in-

cludes low-growing herbaceous plants that form a protective ground cover on the spoil surface. The second group consists of shrubs and trees that provide a protective canopy and also a screening effect. Single species usually do not possess both of these desirable characteristics; therefore, two or more species with different growth forms may be needed to obtain the desired results. Table I shows the species that have given the best ground cover for wildlife use and erosion control.

Considerable difference was shown to exist in the rate of establishment and persistence of the species evaluated. Crown vetch and birdsfoot trefoil are giving the most uniform cover. Wagner flat pea has given cover, but open areas remain between plants. Tall oat grass provided the best quick cover but is gradually thinning out. Indian grass started very slowly, but is developing into good cover.



BLUE ARCTIC WILLOW forms a low, vegetative wall which may be used as a barrier to screen unsightly areas while protecting desirable plants from extreme conditions of wind or erosion.

Table II shows the woody species that have given the best survival and canopy development. Those plants which have performed best are nitrogen fixing. Surface ground cover under most of these plants is lacking. However, with the formation of a complete canopy, there is a small buildup of leaf and twig litter.

The pine species have survived, but are growing slowly. They are not controlling erosion and gullies are forming. Future work plans will include mixed plantings of low herbaceous materials with trees and shrubs; for example, crown vetch and Scotch pine. This will be done to determine if such plantings are compatible and if they will reduce the erosion problem. Scotch pine has attained sufficient size to begin shaping them for Christmas trees. This species also provides some cover for wildlife.

Landowners and conservationists

can proceed with plantings on anthracite mine spoil with assurance of a reasonable degree of success. Suitable shrubs and trees can be obtained from state or commercial nurseries or from the Pennsylvania Game Commission.

The most promising material for developing a full canopy and to hide unsightly areas is bristly locust. It spreads laterally by root suckers at the rate of about four feet per year. A planting spaced 4 x 4 feet apart should completely cover an area by the end of the second growing season. Contour bands spaced 20 feet apart consisting of three or four rows of bristly locust could also be used to stabilize slopes; intervening areas would fill in with time. Deer and rabbits have been observed using this plant for food and cover.

Initial establishment of grasses and legumes on steep or stony spoil will require hand planting and fertilizing.



CLAYTON HEINEY examining growth of autumn olive, Indian grass, bristly locust and switch grass near town of St. Clair.

Mulching is desirable but expensive. Crown vetch, birdsfoot trefoil and tall oat grass are commercially available. The use of a quick sod-forming grass and a legume is preferable to using a legume alone. Except for the very stony slopes, most disturbed areas will support ground cover.

The following procedure is recommended for seeding anthracite mine spoil.

1. Seed as early in the spring as site conditions will permit.
2. Prepare sites so there is enough fine spoil to cover seed.
3. Divide areas in 1000 square-foot units.
4. Spread 10 pounds of 10-10-10 fer-

tilizer as uniformly as possible over each unit.

5. Seed each 1000 square-foot unit uniformly with any one of the following mixtures:

Mixture	Pounds
a. Crown Vetch*	$\frac{1}{4}$
Tall Oat Grass	$\frac{1}{2}$
b. Birdsfoot Trefoil*	$\frac{1}{4}$
Tall Oat Grass	$\frac{1}{2}$
c. Birdsfoot Trefoil*	$\frac{1}{4}$
Tall Oat Grass	$\frac{1}{4}$
Indian Grass	$\frac{1}{4}$
d. Birdsfoot Trefoil*	$\frac{1}{4}$
Tall Oat Grass	$\frac{1}{4}$
Blackwell Switch Grass	$\frac{1}{4}$

6. Rake the area to loosen and mix the spoil with the seed and fertilizer. Begin at the top of the slope. Rake across the slope where possible, not up and down. Do not loosen the spoil more than is necessary to cover the seed.

Existing cover may be improved by fertilizing and overseeding with grasses and legumes. If adapted perennial sod-forming species are used, satisfactory cover should develop in time. It may be necessary to reseed and top-dress areas with weak cover or where slides have damaged the stand.

*Inoculate all legumes prior to seeding.

Clayton L. Heiney is a wildlife biologist with the Soil Conservation Service, Harrisburg. Ernest L. McPherron is an agronomist, formerly a plant materials specialist with the Soil Conservation Service, Syracuse, N. Y.

Pennsylvania Featured in Field & Stream Article

Deer hunting is the No. 1 sport for most Keystone gunners, and a good report on many of its phases as practiced by a veteran Pennsylvanian appears in the April *Field & Stream*. Here, in "A Loner on Whitetail Buck," Donald Jack Anderson of Swiftwater tells how he gets back into the wilds beyond our paved roads and hunts the state's top game animal on its own terms. An informative piece.

Your Forest Ranger

By L. E. Stotz

U. S. Forest Service, Allegheny National Forest

EDMUND BURKE once wrote, "To make us love our country, our country must be lovely."

At the Governor's Conference on Natural Beauty, I learned just how complex is the problem of restoring the natural loveliness of the Pennsylvania countryside. It can't be done in a few weeks or months. After all, it had taken 200 years just to create a favorable climate for calling this public meeting on natural beauty for Pennsylvania.

H. L. Mencken once said, "Americans don't simply tolerate ugliness, they have a passion for it."

Of all the animals on this planet, the human animal produces the most sophisticated garbage. And so we face the paradox of highly civilized man shooting at the moon while standing knee-deep in trash. For too long we have had the swine rampant and the proud pig on our coat-of-arms.

After listening to two days of panel sessions and audience participation, I came away from the conference with the conviction that the solution to this mammoth problem of restoring the natural beauty of the Pennsylvania countryside rests with an aroused citizenry. We must all share the blame for ugliness throughout the Commonwealth. The uglification of our cities and countryside is the result of public apathy and special interest groups.

Like conservation, most everyone is for natural beauty, but not all want the regulatory laws that may be necessary to achieve it.

For individuals who can only be reached by appealing to their pocket-books, it should be pointed out that restoring natural beauty is not exclusively a matter of esthetics. It is also hard-core economics. If the busi-

nessman of the past was too busy industrializing the country to think of natural beauty, he is changing his viewpoint today. Industry will no longer locate in regions that are ugly and untidy. It is as simple as that.

It is now national policy to restore natural beauty wherever man has fouled his nest. Rural areas have an inherent beauty which must be preserved. Unfortunately, rural areas have long been the dumping ground for unwanted trash from urban areas.

Highway Trash

The highways that carry visitors from every state in the Union across Pennsylvania are notorious for the amount of trash that they bear on their shoulders. The Pennsylvania Highway Department spends \$850,000 annually just to pick up junk from along our major highways.

Even if we were blind to the ugliness of the litter along our highways, we could hardly ignore the safety problem that litter creates. In a single year in Connecticut there were 632 vehicle accidents caused by drivers swerving to avoid litter on the highways. Nearly a thousand motorists are killed on American highways in this manner. The highway vandals who litter our roads are firebugs as well as litterbugs. Littering often causes forest fires where the highway traverses wooded areas.

The U. S. Department of Agriculture reports that a million acres annually in the United States is covered over with new developments and asphalt. Recently, a million acres was saved from this fate, so we are at last beginning to win the first skirmish in the long battle for natural beauty and open spaces.



Susan Pajak Says That Any Wives Who Want to Go Hunting This Fall Should Start Planning Toward That Goal Now, for Most of Their Spouses Will Tend to Resist Such Shenanigans, Because . . .

Husbands Are Like That Sometimes!

THERE ARE many trials and tribulations that a woman will have to endure if she sincerely wants to learn to hunt. And some of these ordeals will not take place out of doors as she might expect. Many of her lessons will be learned in the kitchen, game room, or any other available space in her home.

In all probability her husband will be her teacher—and he will be prone to fits of screaming, yelling and the shaking of his finger at her for her “dumbness” in her beginning lessons.

If she is thinking that hubby will immediately load her up with a gun, boots and heavy clothes and say, “Let’s go out in the fields today for your first lesson,” she is highly mistaken.

That part of the hunting game comes way later for her. She must first play the hunting game at home.

One of the “little games to be played at home” will be the nursing game. She will have to sit by his side for perhaps hours and soothe his brow with an ice pack after she announces that she wants to go small game hunting with him.

He will be so stunned after this earth-moving revelation that he will then feign amnesia and indicate that he doesn’t remember his name! Worse yet, he will slap his head, roar with laughter and then pretend to faint.

This little act will cause the little woman great concern and she will quickly search for the aspirin bottle. As he gulps the pills, whether he needs them or not, he will moan out

of tune and give her a sneaky look to see if she is biting her nails with worry or, better yet, confessing that for her to go hunting was just a silly notion.

(He should get an Oscar for this performance.)

Oh! He can be as sly as a fox at this point, perhaps inducing her to think that hunting, for a woman, is too rigorous, too laborious or some other butterfly excuse in an effort to have her stay home.

Necessary Chores?

And to put a deeper dent in that cowardly impression he’ll appoint her to clean his shotgun thirty-seven times “to see how hard it is” before he says it’s ready for small game hunting!

But don’t you believe it, Cupcake! To learn to hunt is *not* that difficult of a job for a girl; frustrating or even tedious at times, yes; but tough, *no!*

After the session with the aspirin bottle another “little game to be played at home” is the “running” game. You, dear lady, will be ready for the Olympics after this exercise.

Soon after a delightful dinner some evening, say three to four weeks before opening day in small game season particularly, he will draw himself up and boldly announce that since you wanted to go hunting, some articles must be gathered and gone over in preparation for The Big Day.

In this speech he describes how he gathers his gear. It’s a solemn ceremony. He will assume a Napoleon-like stance and herald the beauty of

his gun, the sturdiness of his boots and the warmth of his clothes. He will chant the song of the great outdoors and intone the cunning ways of game. He will have by this time cast a magic spell over your head.

But let us reiterate for a moment. Wasn't it said that *he* will gather his gear? Forget it, Rosebud, because this is where *you* come in and this is how you will play the "running" game.

After he plops himself in a low, comfortable easy chair he will implore you to run get him some newspapers, run get him some rags, run get him his cleaning kit, and run get him his gun.

And if that's not enough then it's run get him a cup of coffee, run get him a cigar, run get him a match and run get him a sandwich! You are not permitted by their code to walk; you *have* to run.

But don't let it get you down! Always remember the long-forgotten female hunter's motto: I will keep on my feet. I will not collapse. (Puff, puff, wheeze!)

No doubt after this running exercise you will assume that your part of the job is finished. Right? Wrong! The big surprise comes when your dearly beloved hands *you* the gun and calmly says, "I think you should learn to clean it."

Under his supervision you will take

IF IT'S NOT run get him a cup of coffee, a cigar, a sandwich. . . .



. . . IT'S RUN GET HIM an ice pack to soothe his aching brow.

the gun apart and begin to clean it. You will wonder where all the grit and grime came from as your hands get all messy with cleaning fluids. Let me assure you that in all probability this is the first time his gun ever got such a polishing! Believe me, your manicure will be ruined forever, but that's part of the price you must pay.

As he sits amiably puffing on his cigar you continue to tediously clean and shine his gun and begin to think that maybe you shouldn't have suggested that you go hunting with him at all, since it's apparent that you are doing all the dirty work.

But wait a minute now. Don't throw in the towel—or should it be the cleaning rag? Cling to your dream of going hunting and adhere to the lessons learned from these indoor trials and tribulations. He is only testing you. If you can stay with the chore of cleaning a gun then he will know that you will be able to tackle a larger responsibility later on. He is studying you to see just how much of this hunting game you can really take.

Remember, he's been through all this at one time and he will surely do his best to ease your way a little.

He wants you to go hunting with him and he will be proud of the fact when you do—even though he won't admit it for some little time. . . like a hundred years!



SWINGING ON A ROLLING TARGET helps archer learn how much lead is required at various distances and under different conditions.

Archers Should Practice on . . .

Moving Targets

By Ann Thorne

Photos From the Author

DID you miss your deer with the bow last season? If so, or even if you bagged yours, you might like to consider a new approach.

To the casual observer, archery consists of shooting at a fixed target. In truth, very few archers have made any attempt to acquire the ability to hit a moving target. Occasionally a running deer target is provided at the annual field day of a sportsmen's club, but there is little opportunity to practice except with a live target in

the open field, and at this time one is often disappointed with a "miss."

Neither field nor target archery will prepare a shooter for the occasion when he is faced with releasing an arrow at game moving within bow distance. No amount of practicing on fixed targets will teach a bowman the art of maintaining the proper lead to register a hit on moving game. When shooting at a standing target, the bowman is concerned principally with elevation; equally important when the target is moving is the matter of lead.

Consider a deer walking broadside at 30 yards: Assuming that the deer walks at three miles per hour or $4\frac{1}{2}$ feet per second, and assuming the velocity of an arrow at 180 feet per second, the deer will have moved $2\frac{1}{4}$

Ann Thorne, the former Ann Forbes, is the daughter of Thomas A. and Grace W. Forbes. Tom is the author of "New Guide to Better Archery." Ann was Junior Girls Champion of the Pennsylvania State Archery Association in 1949 and holds the all-time records for the Single and Double Jr. American Rounds.

feet during the flight of the arrow. Now consider what would happen if the deer was running broadside at 30 yards: Assuming that the deer was running at fifteen miles per hour or 22 feet per second, and assuming the velocity of an arrow at 180 feet per second, the deer will have run 11 feet during the arrow's flight.

Having acquired the ability to hit a static target at unknown distances with a considerable degree of accuracy, the bow hunter is ready to learn the technique which will produce hits on moving targets, or better, on moving game.

It is hoped that you learned to shoot with both eyes open, as you will need all of your vision to get a clear picture of game animals and birds against a background of cover into which they blend, to the extent that their flight is difficult to follow.

The amount of lead necessary for any moving target is the product of several variables: 1, the speed of the game; 2, the distance to the game from the bowman; 3, the average ve-

PROPER FORM FOR swinging on a flying target is displayed by Mrs. Thorne. Note that anchor point is the same as for ground target.



locity of the arrow during its flight; 4, the bowman's reaction time—that is, the amount of time necessary for the mind to order the fingers to release the bowstring; and 5, the bow time, which is the time required for the arrow to travel across the arrow plate or rest and assume free flight toward the target.

If it were necessary for the bow hunter to make individual calculations on the amount of lead necessary to compensate for each one of these conditions, he would certainly not be able to solve the problem of lead in the short time available in the field. Fortunately, several of these problems are automatically solved by the method one uses to obtain a hit on a moving target.

Three Techniques

The three most common techniques in shooting at moving game, be it either animals or birds, are: 1, spot or snap shooting; 2, pointing out; and 3, swinging through.

Spot or snap shooting will probably be used by the tyro in his first attempts to hit a moving target. Whether he will score a hit or miss will depend primarily on his idea of how far in front of his game he must send his arrow, depending not only on the angle of flight and speed of the game, but his own reaction time, bow cast time, and arrow flight time. If he has guessed wrong on any one of these factors he misses. In the field he picks a spot in front of his intended target, comes to full draw and releases his arrow, hoping that the game and arrow will arrive at the same spot at the same time. This method, while it produces some startling results, is just as liable to frustrate the bow hunter as he watches his arrow fly wide of its intended mark.

The second method, described as pointing out, has the advantage of neutralizing or compensating for some of the variables, leaving the bow hunter less guesswork and conse-

quently more chance to connect with his target. The bow is brought to full draw and the bow hunter keeps his aiming point moving steadily in front of the game by what he considers a reasonable lead for the arrow to travel in flight from the bow to the target. Since the bow moves steadily during all the time that he needs to release the arrow and the time required for the bow to cast the arrow free from the arrow rest, he needs to think only about the time of travel of the arrow. The average bow hunter probably uses this method in shooting at a running or flying target. The apparent speed of the target, whether crossing at right angles on your front or at another angle, need not be a cause for concern. In either case the lead is governed by the apparent speed and the aiming spot is maintained a distance in front of the game that you believe will permit the arrow to arrive at this spot at the same instant the game reaches it.

Swinging Through

The third method, described as swinging through, relieves the bow hunter from making any estimates of the variables and is a method that will produce hits on running or flying game. It is the method used by the experts and any of us can profit by adopting this method. To get an excellent visual demonstration of the "swinging through" method of shooting at a moving target, secure one of the old Howard Hill 16 mm movies showing Howard Hill shooting at circular discs tossed across his front. Watch his bow as he draws and shoots. Never mind looking to see if he hits the target; he does, but notice the graceful sweep that the bow makes across his body and how it continues in motion *after* the arrow has left the bow.

When swinging through, bring the bow to full draw *behind* the target and swing the bow to catch up to and pass the target at a uniform rate of



PROPER WAY to remove arrow. This causes least possible damage to arrow, target and, in the case of broadheads, hands.

swing. Start your release as you pass the nose of your target, but **DO NOT STOP THE UNIFORM SPEED AT WHICH THE BOW HAS PASSED THE TARGET.** Keep up the swing ahead of the target while you release and even after the arrow has left the arrow rest. Actually the bow will swing across your body to the opposite side of the follow-through. The bow speed, which is in excess of the apparent speed of the game, compensates for the reaction time necessary for you to command your fingers to release, the time necessary for the bow to cast the arrow, and finally it solves the problem of the all-important amount of lead necessary for the arrow to connect with your game.

It is obvious that the straight going-away shot requires no lead whatsoever.

ever. In every case, including the straightaway, elevation is dependent upon the ability of the bowman to estimate distances. An arrow passing over or under a running deer is little consolation for the knowledge that the lead was perfect.

The principal objection to practicing with broadheads is the difficulty encountered in withdrawing them from most of the backstops or butts. Field archers are loath to shoot their expensive arrows into the makeshift backstops provided. A noted exception is the running deer target provided at the Bow Hunters Festival held each year in Sullivan County. A life-size, three-dimensional mechanical deer operates on a track. The deer can be controlled by the operator, who can cause it to slow down, speed up, and reverse its direction. The backstop is not injurious to arrows, and thousands of arrows are shot at this deer during the festival. Nevertheless, we should practice on moving targets with the broadhead which we are going to use in the hunting field.

Good Target

A satisfactory target can be made to run on an inclined wire stretched tightly between two posts. A target which will permit the use of broadheads is to be preferred, so that the bowman can become accustomed to their flight characteristics.

Build a wooden frame 18 inches deep by 24 inches in length of 1-inch soft pine boards. Cover this frame with a 2-inch thick, well-compacted layer of upholsterer's cotton and then stretch an outer cover of burlap or canvas on the frame and tack it to the sides of the frame. Install two pulleys on the back of the target frame, so that they are protected by the frame from arrows. This target will serve very well as the tightly-packed cotton

will prevent the broadheads from penetrating the wooden frame to any considerable depth and the arrow can easily be withdrawn from the target.

When you erect your running target, select a site where you will have no difficulty in recovering the broadheads which miss the target. Actually, you will quickly acquire the ability to swing through and hit the target with considerable regularity. Vary the distances to the target so that you have to consider elevation.

When you are satisfied with your ability to deliver hits on this target, which, after all, moves at a constant speed and always in the same direction, you may wish to tackle a more difficult target. Take several old auto tires and pack the centers with corrugated paper. In this case you want the broadhead to pass through the target, since the shaft would probably be broken if it were to remain in the tire until the target comes to rest. Take the tires to a neighboring slope and have a bow hunting companion roll them one at a time down the slope across your front. You can make this game just as challenging as you wish, depending on the type slope you select. If you feel you are not quite ready for this yet, try to hit a rubber ball that your companion has thrown along the ground. Then when you become fairly proficient at this, try the tire. If you can send a shaft through a tire bouncing down a rough incline twenty yards in front of you, then you can be confident that you can give a good account of yourself when a whitetail runs across your front next season, provided, of course, a tree limb doesn't leap out from nowhere and deflect your broadhead from a sure hit to just another miss. Consider these ideas; possibly they can be of some use to you in bagging your game. At any rate, good luck.

Snowshoes . . .

The paws of the Canadian lynx are twice the size of the southern bobcat.

A black and white photograph of two people in a canoe on a river, surrounded by dense trees. The scene is peaceful, with the water reflecting the surrounding foliage. The canoe is positioned in the middle ground, and the trees form a thick canopy overhead.

Big Shenango Float Trip

By David S. Bair

YOU CAN DRIVE from Greenville to Jamestown, Pa., on Route 58 in less than 15 minutes. You can float from Jamestown to Greenville in a flat-bottom duck boat or canoe on the Big Shenango River in five hours.

Along the wilderness river route you will see trees that were one day seen by Indians. Ten minutes down the river from Jamestown and you look around rather expecting Indians to step out on the bank and hold up a hand in greeting. Route 58 is a comparatively straight line between Jamestown and Greenville. On a road map the river looks like a straight line, too, and you believe that you will be able to make the trip in two hours or less. It'll never happen.

A Sporting Route

The river route is a sporting event. It twists and turns and grows deep and shallow. It's sluggish and swift, full of hidden rocks and fallen trees. A dazzling sun reflecting on murky water will give two people in a boat all the problems they care to handle.

Nearly everyone in northwestern Pennsylvania has visited Pymatuning, but few people realize that a float trip is possible from Jamestown to Greenville down the Big Shenango River. It is ideal for a float trip. You can drive across the top of the dam at Pymatuning, park your car or truck near the pavilion below the dam and put your boat into the river at that point. You can paddle and float from there down to River Side Park in Greenville and take your boat out of the water at that point. Naturally you need two cars. You will have to drive back to Jamestown to pick up your parked vehicle or you can have someone drive you and the boat to Jamestown and pick you up in Greenville.

I recently made this trip with my 20-year-old daughter Vickie. She called it a "happening" and I called it an "experience." We are, of course, of different generations.

I'd attended a household auction at

Linesville, and found myself bidding longer than anyone else, after which the man said I owned a 12-foot flat-bottom aluminum duck boat. The only thing I owned was the boat; no oars, no paddles, no car carrier, no motor. Minor problems, I figured, already thinking of the river. I had wanted to make this trip for a number of years and the Shenango was calling. I asked my friend Charlie if he would like to go. Charlie had a bad cold. But Charlie had a truck, and he took Vickie and me up to Pymatuning and left us to float the river. Charlie will go another time.

Vickie and I put the boat into the water at the bridge in Jamestown and cast off. For propulsion we had only a pole. After all, we knew this was going to be an easy float, with no trouble at all, and in a couple of hours we'd be in Greenville, wouldn't we? Well, as someone once said, "What fools these mortals be." And Faulkner wrote something about the wilderness not being created for man's convenience. We all have lived too long in the age of convenience, and we have forgotten that it can be any other way, as Vickie and I soon found out.

I was daydreaming when Vickie said, "Watch it, Pop." We were headed for an overhanging tree limb. I am supposed to be steering the duck boat from the rear seat. Nothing works with a pole. She grabs the branches, the boat swings, she lets go and says, "Are you still all right?" I had just been whacked with a face full of willow twigs.

This is the beginning. It is early spring and the grass is green. The dog-tooth violets show a spot of yellow. Here and there is a lonesome clump of jonquils, planted when the river was in flood. I have taken a fishing pole and my daughter has taken an American Literature book. She has to do a paper on Faulkner's "The Bear." She will read along the way. I will fish along the way because I know that I am going to find holes where



DAVE BAIR AND DAUGHTER, VICKIE, found floating the Shenango a memorable trip, whether called a "happening" or an "experience."

no one has fished. I bait my hook and dangle the line and set the reel. The boat is moving too fast and I don't get any strikes but I do get snags. The reel screams and I make a wild grab and lose hook, line and sinker. I start all over again.

Vickie alerts me to impending disasters. "Watch it, Pop." . . . "Here we go again." . . . "Careful, now." About now she decides she needs a pole. As we go by an overhanging tree, I break off a limb for her. Now two of us are poling the boat. The river twists and turns. A little later we see silver-topped silos to the left and she says, "What are those?"

"Those are Rosen's barns. We are only down to Rosen's."

We now know that we are never going to make the trip in two hours. A short way down the river we pass underneath a railroad bridge. We are amazed at the construction—all that iron, steel and rock to carry a train across a shallow river. Under the bridge the river is cluttered from bank to bank with debris—washed up trees, timbers and a bottle or two.

"Hey, look—somebody had a saw-

mill." There is the most beautiful sight in the world, a pile of old slab wood that was left behind.

"Pole, girl, pole for the opposite bank."

Now we have two paddles. Rough pieces of slab wood, four or five feet long with no shape, but much better than poles.

Save the Poles

"We'll save the poles until we see how these work," I said. Vic agreed. With the makeshift paddles, things were much better. I said to Vic, "Let's keep our mouths shut. If you see anything, point."

Self-imposed silence from there as we floated down the river made it a great day! We surprised five gray-blue herons. These birds stand four feet high. They have yellow eyes and bills. They take off with a slow regular wing beat, and it's hard to believe that a bird so big can fly. We look up at their black legs and feet and they look down at us like they don't believe people should be on their river. Mallards jump and fly away at 40 miles an hour. All you seem to see

going away is a green head and the white neck ring. You hear the *whirr* of the wings. Wood ducks with bills held down dodge through the trees. Pheasants in the field squawk with a half-crowing sound. Kingfishers make harsh rattling calls. They fly erratic



FLAT-BOTTOM DUCK BOAT in home port, awaiting another call to explore the Big Shenango.

up-and-down patterns over the water. Along the brown earth bank we see a kinglet near the fir trees. He is about half the size of a house wren, one of the smallest birds we have ever seen. Redwing blackbirds perch on weaving cattails. They wear their red chevron stripes proudly. Crested cardinals call from the treetops and nesting crows scold from high in a sycamore.

Along the banks the beech trees come down to the river's edge. Skunk cabbage and something that looks like bamboo or wild asparagus grows thick and dense and green. Carp work and splash in the shallows. The bank is filled with muskrat holes and bank beaver dens. Here and there the beaver have made tree cuttings. Three- and four-inch tree stumps have the

characteristic pointed tip where they have been gnawed through. The river banks rise high and the trees grow dense. A surprised deer lifts its head, spots us, throws up the white flag and flees.

A low island appears ahead, and with it a problem. The channels on both sides of the island are filled with fallen trees. A man could walk from bank to bank using them for a bridge. There is no easy way under or over. The swift current pulls us into the trees. We bank the boat and get out to stretch. It isn't any problem carrying the boat around the fallen trees and putting it back into the water.

Giggling Girl

Not more than five minutes earlier I had foolishly thrown the poles away. The water was deep along the bank and I had no way of bracing or holding the boat steady. In the boat, we had two blankets for sit-upons, a legal tablet full of physics notes, a five-inch-thick American Literature book, plus fishing pole and gear. Vickie stepped into the front of the boat and it rocked. A giggling girl in a boat is deadly—even a college age daughter. Vickie started to giggle. Her feet were in the boat and her body was on the bank. The boat rocked once more and we were in the drink.

"Oh, no," she said.

"Oh, yes," I said.

I grabbed the fishing pole, and she grabbed the book. We were wet almost up to our waists. We dragged the boat out of the river and dumped it. We salvaged the wet blankets and gear and set sail down the Shenango again. Her literature book only had a wet cover. The physics notes were a mess. I had broken a plastic tackle box. My trousers were soaking wet, but my wallet was dry. Funny things people protect in an emergency—like money.

River water in April is cold. The sun was going down and there was nothing nearby except high banks,

birch trees, skunk cabbage, and a loud crow giving us the raspberries. Then Vic said, "As the sun slowly sets in the West. . . ."

Now we were concerned because we felt that her mother and my wife would worry when we didn't arrive by five o'clock. It was now five o'clock and we were only two-thirds of the way home and soaking wet. I stopped fishing and began paddling.

The wind whistled through the dead leaves in the trees and Vickie said she heard rapids ahead. No rapids appeared until the Porter Dam. The old dam above the Porter Bridge has a wicked stretch of rapids. We were smart enough to carry the boat around these. After this it was smooth sailing on into Greenville. There is one other small problem before Greenville—a tremendous beech tree that blocks the river from bank to bank. You can carry around that. . . .

All my friends now want to float the Big Shenango. As a matter of fact, I may go three or four more times this summer . . . when Charlie is over his cold. We'll have new paddles, though.

Every inch of the trip is worthwhile,



FLOATBOATERS Dave and Vickie with brand-new canoe paddles—which should work better than picked-up poles on next trip.

and I hope more people in northwest Pennsylvania will make the float from Jamestown to Greenville. My daughter is ready to make the trip again. She saw a brown turtle that she couldn't identify, and she is a biology major. Besides, she now knows what Faulkner means when he tells of inconvenience in the wilderness.

4½ Centuries . . . and We Still Haven't Learned

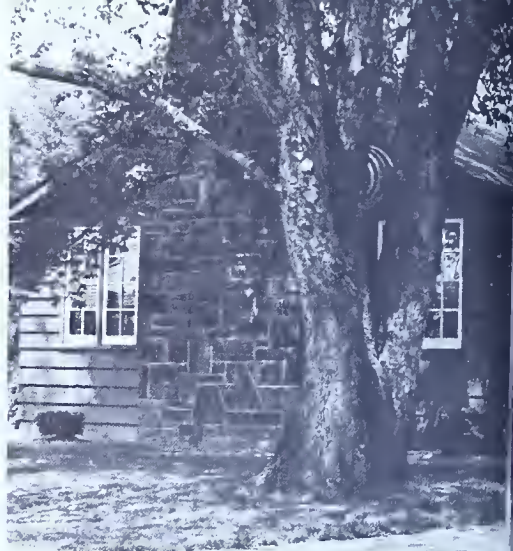
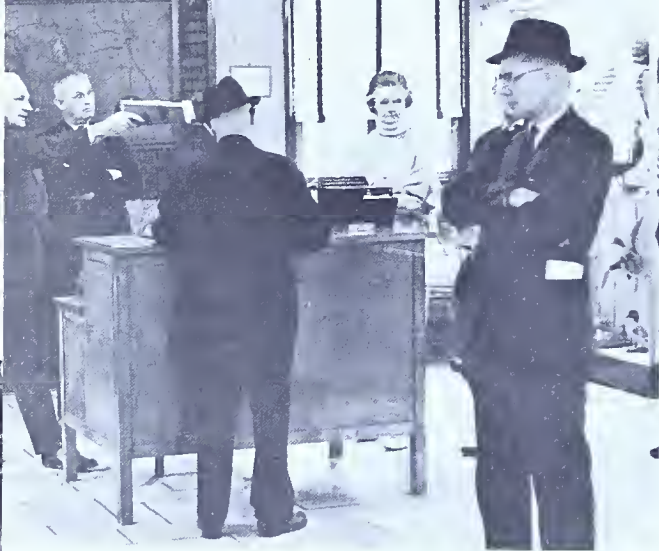
"The chief foundations of all states, whether new, old or mixed, are good laws and good arms. And as there cannot be good laws where there are not good arms, and where there are good arms there must be good laws, I will not now discuss the laws but will speak of the arms."—Niccolo Machiavelli, in *The Prince*, 1513.

We Pay . . . Everyone Plays

The U. S. Fish and Wildlife Service is in the middle of a seven-year program to acquire 1.15 million acres of wetlands. The land is being paid for by hunters' purchase of duck stamps and is open to the public for year-around outdoor recreation. Hunters use it only two or three months during the year.

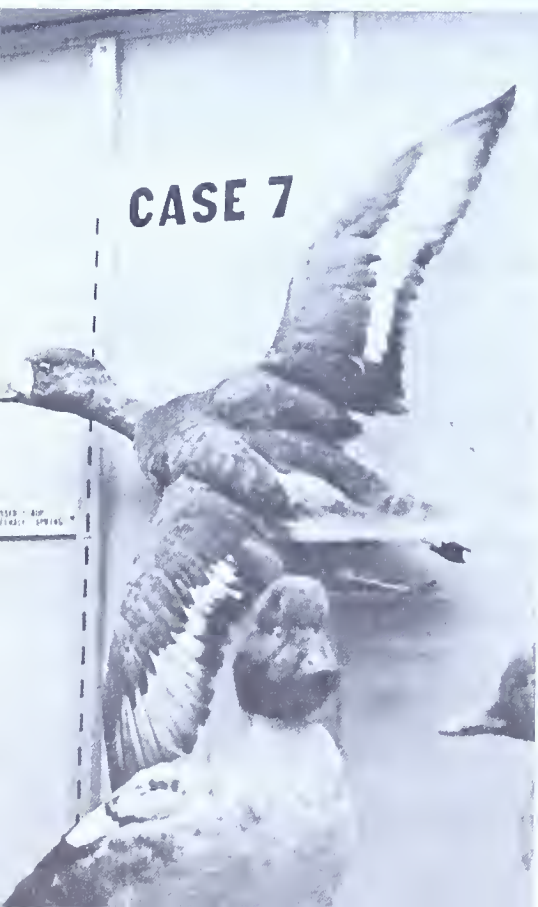
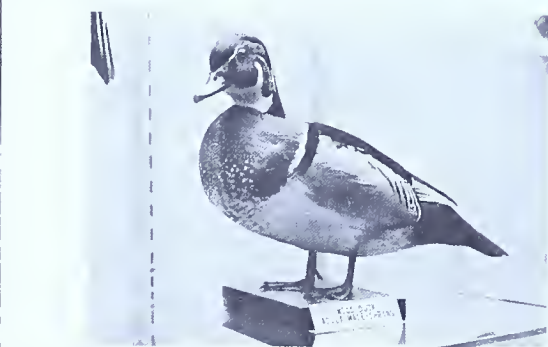
The Hunter Afloat

U. S. hunters invest some \$225 million annually in boats and water equipment.



Wild Water

THE Game Commission's Wild Waterfowl Museum in Linesville, Crawford County, attracts many visitors. Nearly 300 mounted specimens are on display. All were collected by the public from May 1 to November 30, 1999. For more information, call (412-927-2199). Museum hours during the season are 10 a.m. until 5 p.m. prevailing conditions. The museum is located on Legislative Route 20006.

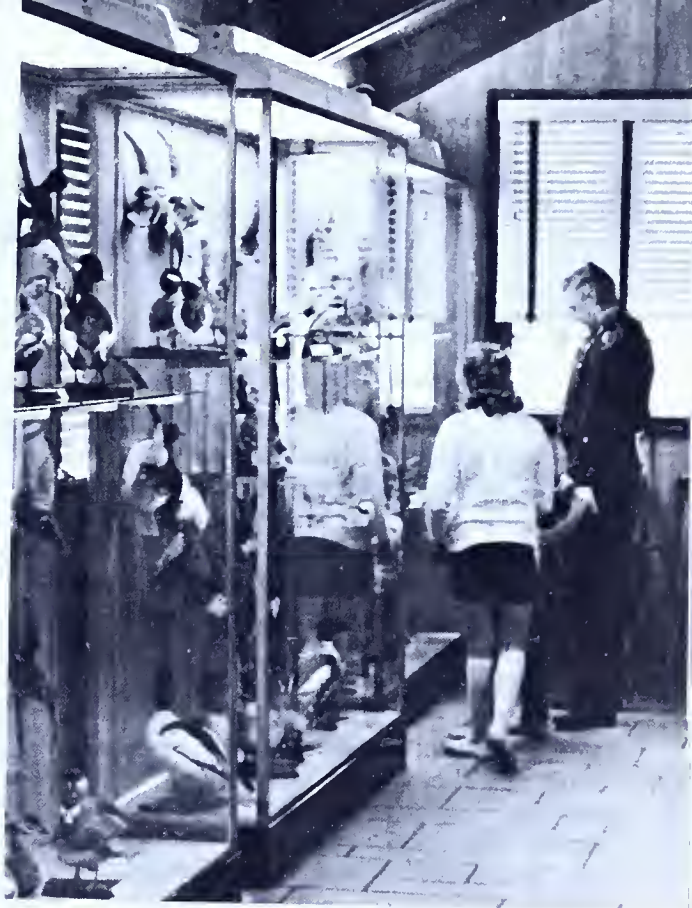




Museum

Museum at Pymatuning Lake near
 ws more than a quarter million
 ating about 90 waterfowl species,
 ng. The museum is open to the
 visitations are possible in April
 Agent R. M. Sickles (telephone
 me, October and November are
 for July, August and September
 one mile south of Linesville on

By Bob Parlaman





FIELD NOTES



New Deer Lure?

COLUMBIA COUNTY — William Creasy, Central Columbia Area School teacher, says the most effective deer lure, as far as he is concerned, comes from his lunch bag. On the first day of the last two buck seasons Bill has been fortunate enough to bag his male deer. On both occasions, when he became hungry while waiting for his trophy to come along, he reached into his lunch bag and pulled out a nice large banana. As he peeled the banana, his buck walked right smack up to him. All I can say is, "Monkeys, yes, but deer?????"—District Game Protector E. F. Sherlinski, Mifflinville.



Too Allergic to Help

BRADFORD COUNTY — A Game Protector's wife is a very valuable asset to his work. When I discovered that my wife was allergic to deer, I felt I had an exceptional law enforcement tool. My visions of having her sniff out hidden deer while executing search warrants came to an abrupt halt when it was found she was allergic to farm livestock also.—District Game Protector A. D. Rockwell, Sayre.

New England Praises

BRADFORD COUNTY—I attended the New England Sportsmen's and Camping Show at Boston, Mass., the second week of January, and it was rewarding to hear the many fine remarks from the sportsmen up there about the excellent hunting that Pennsylvania has to offer. There were also many many compliments concerning our official publication, *GAME NEWS*. Only one individual, of the thousands that stopped by our exhibit, did not think much of Pennsylvania. He had been thinking about coming here to do some hunting, but became quite upset and decided to hunt in his own state when he found out that he could not legally possess a loaded gun and hunt from his automobile in Pennsylvania.—District Game Protector D. E. Watson, Towanda.

How's the Fishing?

BEDFORD COUNTY — While checking deer hunters on the first day of antlerless season, Fish Warden William McIllnay was traveling with me. Mr. McIllnay is so used to dealing with fishermen and so conscientious he would invariably ask these hunters, "Well, fellows, how's the fishing?"—Land Manager D. L. Stitt, New Enterprise.

Pheasant Concentration

UNION COUNTY—By February 1 I had live trapped approximately 400 ring-necked pheasants from the Northeast Federal Penitentiary grounds.—District Game Protector J. S. Shuler, Lewisburg.

Best State in the U. S.

LUZERNE COUNTY — While checking a pair of deer hunters during buck season, they told me that they had a very good small game season. On the first day of small game season, they fired thirty-two shots at rabbits and pheasants, but collected only two rabbits. If we had more hunters like these, maybe we would be overrun with game. Also, I talked with a deer hunter who owns a share in a cabin in Lycoming County. His group had nine men in their party and on the first Thursday of buck season they had 9 bucks hanging at their camp. During turkey and bear season the party shot at 12 turkeys and 4 bears, without scoring. With this kind of hunting, Pennsylvania must still be the best hunting state in the Union.—District Game Protector E. R. Gdosky, Dallas.

Lots of Turkeys

LYCOMING COUNTY—I received many complaints after the hunting season regarding the wild turkey. Many hunters complained that we did not have any, that they all died of blackhead. After we filled the feeders and a lot of the natural food was covered with ice and snow, the turkeys appeared and used the feeders almost daily. Many of the hunters now seeing them are talking about how many turkeys we have.—District Game Protector P. A. Ranck, Williamsport.

Winter No Hardship

LUZERNE COUNTY — Because of the deep snow, many people have been concerned about the wildlife in this area. I found quite a few areas where the deer pawed through the snow to eat grass. With the low temperature, the snow was powdery, causing no hardship. I examined several animals during the winter and all appeared to be in very good condition.—District Game Protector C. E. Burkholder, Wilkes-Barre.



Deer Going Underground?

LEBANON COUNTY—Apparently the deer in Lebanon County have decided to go underground. Recently a miner working on an inclined shaft several hundred feet underground at the Cornwall Iron Ore Mines felt something brush past him in the dark. After getting his light on, he found that it was a 120-lb. doe deer. With the assistance of several of his fellow workers, they managed to catch the deer and tie her feet together and haul her out of the mine shaft. They then called me. After checking the doe and finding her all right we hauled her out to open mountain land and released the doe, apparently none the worse from her adventure.—District Game Protector E. T. Clark, Lebanon.

Dogs Running Deer

PERRY COUNTY—The critical time of year for dogs running deer is upon us again. Complaints are increasing. Recently several deer had to be disposed of because free running dogs slashed and tore them beyond help. Others unknown to us die a lingering death. Some of these dogs are virtually wild animals themselves, others are household pets. Dog owners can ease this problem by controlling their dogs.—District Game Protector B. D. Jones, Loysville.

Groundhog Day in November

SUSQUEHANNA COUNTY — On the opening day of buck season, two of my deputies each saw a woodchuck in widely separated parts of the district.—District Game Protector D. G. Day, Hallstead.



Why Rabbits Are Scarce

LUZERNE COUNTY—Even though we had a good game harvest this past year, some people still complain. While releasing rabbits during January, an expert told me there are no rabbits because the Game Commission protects the groundhogs who dig too many holes. He said the rabbits all sit in these holes. This is a little difficult to understand since there has been no protection or bag limit on woodchucks in the last 15 years.—District Game Protector R. W. Nolf, Conyngham.

January Mallard Hatch

Dale Bement, Centerville, R. D. 1, a Safety Zone cooperator, reported to Food and Cover Corps Foreman Dan Badger that a mallard hen settled in his barn for protection from the winter cold. On January 10, with the temperature at zero, she hatched 12 eggs. The ducklings are doing fine. — CIA R. D. Parlamen, Franklin.

Wet-Footed Hunters

JUNIATA COUNTY — A group of Philadelphians who hunt here for deer have a good system. They concentrate on an area with light hunting pressure because the tract is isolated by a fairly deep mountain stream. One hunter brings along his hip boots, wades the stream, puts on his hunting boots, throws the hip boots across to his buddy, who crosses and repeats the process. When all have crossed they hide the boots and go hunting. They meet back at a predetermined time and return the same way. The first day of buck season all went well until the last man with the boots threw them. One landed in the stream. Going back, they all got wet feet. The second day, after getting a new pair of boots, the same man, while crossing, lost one of his hunting boots in the stream. When he threw the hip boots one landed in the stream. He spent the day in one hunting boot and one hip boot, and the rest of the party got wet feet that evening. I have a feeling this group is looking for a new area in which to hunt deer.—District Game Protector R. P. Shaffer, Mifflintown.

Welcome Help

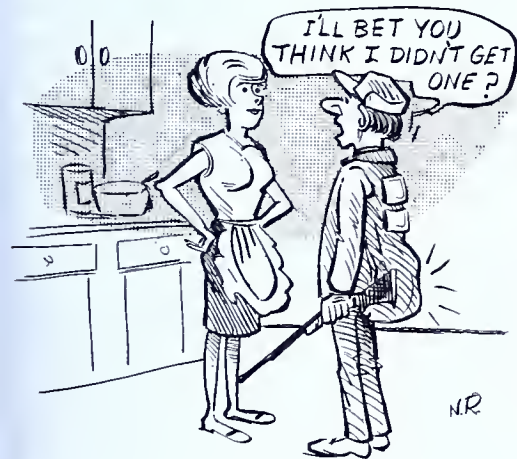
FOREST COUNTY—I believe more and more sportsmen are beginning to realize that it takes help from them to keep Game Law violators in line. I have had very good cooperation from hunters and campers in my area this year. This has led to apprehending quite a few violators who would have otherwise avoided arrest. If more hunters would consider turning someone in for a flagrant violation—a service to themselves and to other true sportsmen, rather than thinking of themselves as stool pigeons—much would be gained in the conservation effort.—District Game Protector C. E. Toombs, Jr., Tionesta.

Cat No Match for Rabbit

Recently another officer and I observed a large black cat sneaking up on something in an open pasture field. As we drove by we saw the cat leap toward something and to our surprise a large cottontail rabbit jumped up and ran off across the field, easily out-distancing the cat. We were sure the cat was after a mouse. — CIA R. H. Myers, Hamburg.

Deer Follow Dozer

CENTRE COUNTY — Deer appear to be taking advantage of the bulldozing of deer browse on State Game Lands 33 near Philipsburg. On January 27 the operator shut off his machine to eat lunch. Approximately fifteen minutes later seven deer started to browse in the area he had been working. On January 29 eight deer were seen browsing in an area just completed within sight of the dozer operating in an adjacent block.—Land Manager L. F. Harshbarger, Millheim.



Mini-Deer?

SNYDER COUNTY—Lester Weller of Middleburg reports bagging a doe during the antlerless season that hog-dressed 18½ pounds, including the heart and liver. Someone suggested that it might be a mini-deer.—District Game Protector K. W. Dale, Middleburg.



Valuable Dog

HUNTINGDON COUNTY — Coon hunter Ernest Thomas of Saltillo has a pack of hounds he is proud of. Champions all, says Ernie. One dog he favors a little more than the others. One night last January Ernie fought the crust up and down Sidling Hill twice. Ernie and one dog gave it up for the night and returned to the car to await the rest of the pack. Ernie soon fell asleep. Some time later he was awakened by his dog whining, scratching and making a fuss. Ernie discovered his clothes and the seat were on fire. Seems Ernie had put his carbide light on the floor and had somehow knocked it over. Luckily for Ernie, the dog woke him before the fire got a good start, but it must have been uncomfortable driving home, sitting on hot springs. (P.S. Why wasn't that champion with the rest of the pack, Ernie?)—District Game Protector T. C. Barney, Rockhill.

1000 Safe Hunters

FRANKLIN COUNTY—Over 1000 students in grades 7 through 12, both boys and girls of the Greencastle Junior and Senior High School, have completed the Hunter Safety Course given by the Pennsylvania Game Commission.—District Game Protector Ronald E. Schmuck, Greencastle.

Hardy Hunters

LUZERNE COUNTY — Snowshoe rabbit hunters are an especially tough breed of sportsmen. During the past snowshoe season, at least a foot of snow covered the ground in some of the better snowshoe hunting areas. It was surprising to see the large number of hunters tramping through the deep snow trying to bag these elusive targets. Quite a few of these hardy sportsmen enjoyed excellent success despite the unfavorable conditions.—CIA S. A. Kish, Dallas.



No Violation

YORK COUNTY—One day last October Deputy Raymond Schroll and I heard shooting about 7:10 p.m. Sunset had been at 6:45 p.m. so we investigated. I found a hunter who said he had been hunting doves, but didn't know it was after sunset. When I told him about the penalty, he said he would pay the fine, whatever the amount, because he should have known better. When asked to unload his gun, he sadly admitted running out of shells at 6 p.m. He couldn't leave because he was waiting for a brother. When I told him there would be no fine since he hadn't shot after 6 p.m., he insisted that he would have been shooting if he hadn't run out of shells. I told him violators paid fines only for what they did.—District Game Protector G. J. Martin, York.

Good Advice

CLARION COUNTY — Quite often when persons are apprehended violating the Game Laws intentionally or otherwise, the only excuse is "I didn't know." Many of these incidents would be avoided if every hunter would take time out to thoroughly read the Hunting & Trapping Digest issued with each hunting license. This booklet puts into easily understood language the do's and don't's which comprise better than 90 percent of the violations which are prosecuted each year.—District Game Protector D. W. Brown, Knox.

What's in a Name?

BUTLER COUNTY—A friend told Deputy Carl Waldenmyer he had been visiting a neighbor who had a three-year-old son. As they stood in the yard talking along with the young lad, a gray squirrel ran across a black-top road and into the yard. The boy spied the squirrel and exclaimed, "Look, Dad, Look! There's one of those—ahhh, you know—one of those *nut rabbits*!" With this we discover that Mother Nature has added a new species to Pennsylvania's wildlife collection.—District Game Protector J. D. Swigart, Butler.

Good Gobbler Season Seen

BRADFORD COUNTY — Things look good for Pennsylvania's first spring gobbler season here in Bradford County. We have wintered a good supply of turkeys and the ratio of "toms" in the flocks seems to be higher than usual. The turkeys are still benefiting from last year's terrific mast crop. The beechnuts are still coming down and the birds are staying in the areas of large beech stands. Use of our turkey feeders in the big woods country has been sporadic since the snows. The birds should be in good rig come May 6.—District Game Protector R. W. Donahoe, Troy.



CONSERVATION NEWS



Keystone Hunters Bag 568 Bears

PENNSYLVANIA'S bear hunters had another tremendous year in 1967, with a reported harvest of 568 bruins. This total is especially impressive as 605 bruins were reported taken just one year earlier. The 1966 figure, the state's fourth highest harvest on record, came when bear and turkey seasons were held concurrently in the northcentral part of the state. In 1967, the turkey season ended prior to the start of bear season.

The 568 bruins tagged this past season represent the eighth highest annual harvest since record-keeping on bears started in 1915. The 1173 reported taken in 1966 and 1967 is the fourth highest for two consecutive years, surpassed only by 1923-24, when 1429 were taken; 1924-25, when hunters reported bagging 1399; and 1930-31, when 1208 were tagged.

Game Commission Executive Director Glenn L. Bowers, in announcing the 1967 figures, said the 568 total does not include 137 bruins killed illegally, on highways, because of crop damage, etc. He also pointed out that the harvest reflected the accuracy of preseason Game Commission estimates on the size of the bruin population in Pennsylvania.

Bowers said, "While the harvests in both 1966 and 1967 were rather high, many sightings of this prized big game trophy since the close of the season convince us that there are still plenty of bears in Pennsylvania."

Potter County, traditionally the leading area for deer hunters, was the top bear producer in 1967. Hunters

reported taking 66 bruins in Potter, while Elk County finished in the runner-up spot with 64 bears. Rounding out the top five were Clearfield, 50; Tioga, 43; and Cameron, 39.

In 1966, Cameron County was the top bear producer with 86, followed by Clinton with 67.



WALLACE L. CHERRY, Tyrone, with his big bear taken in the past season.

Road Hunting Curbed by New Legislation

THE HAZARDOUS practice of road hunting was further curbed in Pennsylvania when Act No. 335 became effective February 12, 1968.

The intent of the Act is to curtail the practice of hunters sighting a bird or animal from a slowly moving vehicle, stopping, jumping out of the vehicle and shooting. The law applies to all wildlife, including deer, grouse, pheasants, woodchucks, rabbits, predators, etc.

The Act provides that it shall be unlawful for any person, after alighting from a motor vehicle being driven on, or stopped on or along a public highway, or road open to public travel, to shoot at any wild bird or animal while the person doing the shooting is within 25 yards of the traveled portion of a highway or road open to public travel.

Act 335 does not prohibit all hunting within 25 yards of a highway. If it did, this would eliminate some 2,000,000 acres of hunting territory.

To comply with the new provision, a person, after spotting game from a moving vehicle and alighting, must move at least 25 yards from the traveled portion of the highway before shooting at any wildlife.

Act 335 is the result of numerous complaints to legislators, police and members and officers of the Game Commission by motorists, landowners and sportsmen. Road hunting is in itself dangerous, and with the marked increase in the number of hunters engaging in the practice, it became

necessary to further curtail the abuses.

A road hunter sometimes becomes so engrossed in spotting wildlife from his moving vehicle that he either has or causes a traffic accident, especially while attempting to make a quick stop on the highway or suddenly swerving off the road in order to park. Also, sometimes a road hunter fails to notice that he has stopped within the 150-yard "safety zone" around occupied buildings where hunting is forbidden.

Act 335 gives animals and birds a sporting chance by helping to eliminate the advantage man has over wildlife by hunting, with bow and arrow or firearms, from a motor vehicle.

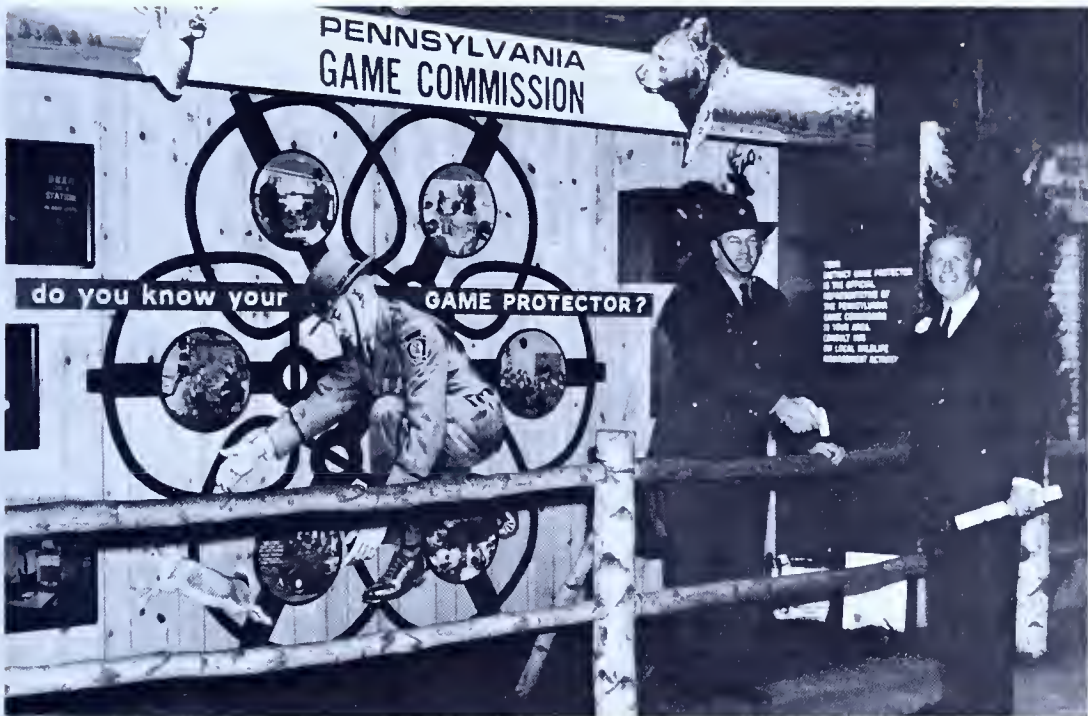
This law is not intended to prohibit a person legally parked along a highway for the purpose of entering the field or forest for an extended period of time from shooting within the 25-yard zone. After a person has been afield for a hunt, he may shoot within the 25-yard zone when returning to his vehicle.

Neither is it intended to prohibit a person who had his vehicle parked for an extended period and is using the vehicle to keep warm, eating his lunch, drying his clothing, etc., from getting out of his vehicle and shooting while still within 25 yards of the road.

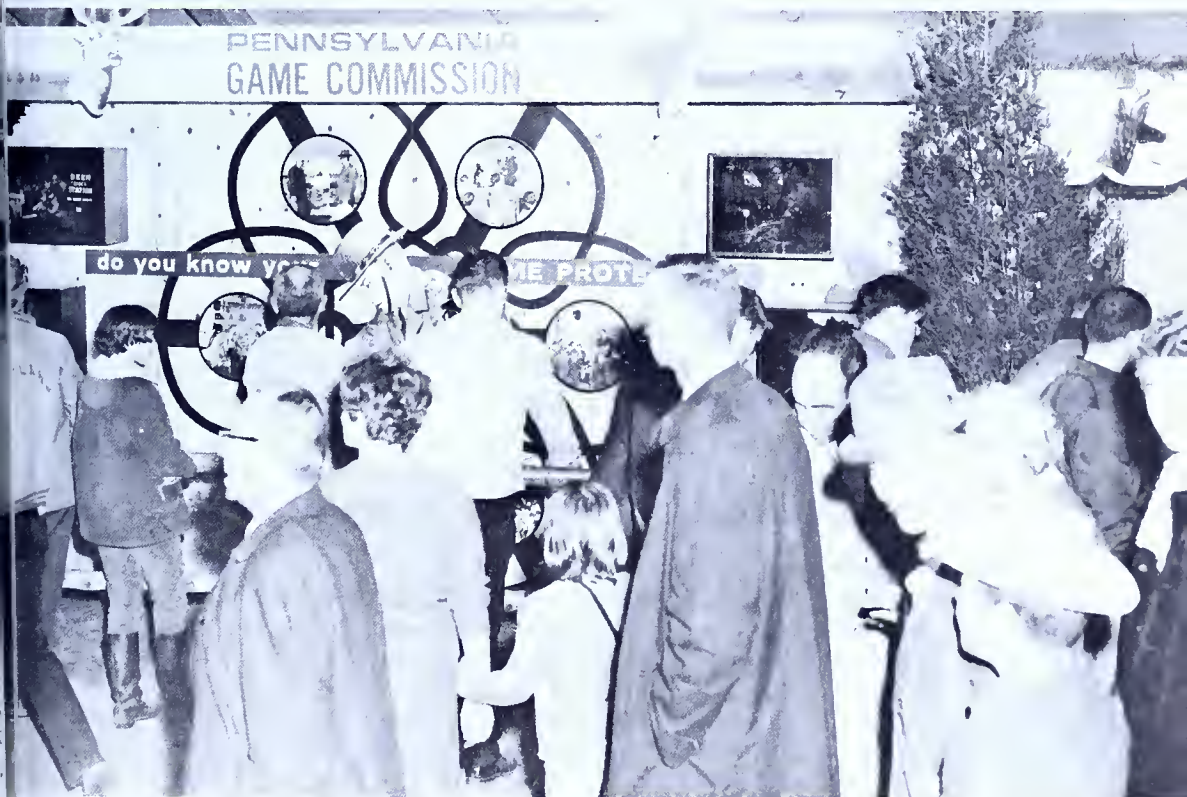
Disabled persons who have a permit to hunt from an automobile that is legally parked may continue to sit in and shoot from their vehicles even though they are within the 25-yard zone.

First Nonresident Wins Triple Trophy Award

The first nonresident hunter has qualified for the Pennsylvania Game Commission's Triple Trophy Award. Charles E. Winch, 1625 Wiles Cort Road, Cortland, Ohio, is the first out-of-state hunter to bag a wild turkey, a black bear and an antlered white-tailed deer during a single hunting license year. Winch shot each of his trophies in Elk County.



LIEUTENANT GOVERNOR RAYMOND J. BRODERICK, above, officially opens the Pennsylvania Game Commission's exhibit at the State Farm Show, Harrisburg. He is welcomed by **CIA Bob Myers**, in charge of the exhibit. Below are some of the thousands of sports enthusiasts who visited the display. *PGC Photos by Ralph Cady*





A FEW OF THE 681 AUTOS AND 13 MOTORCYCLES that carried 2593 persons (plus 29 dogs and one cat!) on a tour of State Game Lands 211 in Dauphin and Lebanon Counties. The program allowed examination of food plots, cuttings, and other areas of interest.

PGC Photo by Bob Myers

Game Commission Purchases Fayette Co. Tract for \$163,508

The Pennsylvania Game Commission has just completed its largest single expenditure of funds for purchase of a single tract of land for public hunting.

The tract involves 4087 acres in southeastern Fayette County, purchased for \$40 an acre, or a total cost of \$163,508. The land, purchased from the Elizabeth Stewart estate, is in the townships of Dunbar, Stewart, Wharton and Henry Clay.

The tract, primarily rolling forest land, will be added onto State Game Lands 51 and 265. The area contains good habitat for deer, grouse, squirrel and rabbits.

Monies to purchase the land came from the Game Fund.

Heavy hunting pressure in the area comes from sportsmen in the Uniontown-Connellsville-Washington-Pittsburgh district.

Different Guns for Trophies

A 1967 Triple Trophy Award applicant, B. H. (Pete) Gelston, Camp Hill, used a different gun to bag each species. A 243 Winchester accounted for a 21-pound gobbler on the next to last day of the turkey season, November 17. Gelston used a 350 Remington Magnum to take his bear, again on the next to last day of the season, November 24. The hunter got his buck on the first day of the season, using a 270 Winchester to bag an 8-pointer. Gelston, a former Deputy Game Protector, took all three species almost within shouting distance of each other in McKean County.



PREVENTION AND CONTROL of forest fires was the theme of the FFA Chapter of Brockway Area High School, at this year's Farm Show. Taking part were Tom Cowan, Mark Sheley, Bob Moore and Miles Duane as Smokey.



INVOLVED IN the Huntingdon County Annual Boy Scout Civic Day were DGP Dick Furry and Star Scout Steve Sacks, Mt. Union. Steve is shown at Game Commission Division Headquarters, transmitting a radio message.

State Receives \$1,002,972 in P-R Funds

PENNSYLVANIA'S share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1967-68 fiscal year totals \$1,002,972, a new record. E. G. Musser, P-R coordinator for the Game Commission, said the state's final allotment of the federal funds was \$374,316. This is added to Pennsylvania's initial allotment of \$628,656, received last summer.

The federal funds are used for the Game Commission's wildlife habitat development and research programs. The 1967-68 share is considerably higher than the previous year's allotment of \$868,658, which was the prior record apportionment.

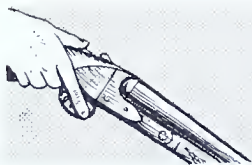
Nationwide, the distribution totaled \$26,320,000, up from the \$23,533,000 provided in 1966-67. Each state's allocation is based on the number of paid license holders and land area.

Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior, Bureau of Sport Fisheries and Wildlife. Funds come from excise taxes levied on sporting arms and ammunition.

Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost.

The Right Approach

"I am convinced that legislation against the weapon will never prevent crimes of violence. It would be far better to legislate against the misuse of the gun rather than the gun itself."—Governor Raymond P. Shafer, Pennsylvania.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Rifle Club Hunter Safety

THE Mechanicsburg Area High School presented a hunter safety course on two consecutive nights for students and adults of Mechanicsburg. The course was sponsored by the High School Rifle Club, an active organization coached by Robert E. Witmer and J. Robert Morrow.

In cooperation with the Pennsylvania Game Commission, a four-hour hunter safety course was provided by District Game Protector Gene Utech and Deputy Game Protector Charles Lohry. Assisting with the class instruction, which was presented in the high school auditorium, were District Game Protectors Jacob Sitlinger, Barry Jones and Dorsey Smith. Approximately 200 students and adults attended. Each officer participated in the class instruction, and during the program demon-

strated proper field handling of sporting arms and the best methods of carrying them, both while hunting alone and with a party. Accepted zones of fire while hunting with others were discussed. This method of teaching, which has been a combined effort throughout Perry County high schools, was well received by the Mechanicsburg group. In addition to the lecture demonstration, hunter safety films were shown. These included "Trigger Happy Harry" and "Safe and Sane Hunting."

At the completion of the course, Mr. Utech directed the session on examination and certification, which always creates discussion. To correct any wrong or undecided opinions of safe gun handling, all questions were reviewed.

HUNTER SAFETY INSTRUCTOR Bob Morrow shows firearm, while DGP's Charles Lohry and Gene Utech, along with teacher Bob Witmer and students, look on during course at Mechanicsburg.



Observations on 1967's Hunting Accidents

IN REVIEWING Pennsylvania's hunting accidents for 1967, a number of important facts have been revealed.

Contrary to what many people have suggested, neither weather nor the newly established shooting hours were factors contributing to accidents. Final statistics on Pennsylvania's hunting accidents have not been totaled, but in checking the 454 non-fatal and 24 fatalities now reported, the time of occurrence of each was well within legal shooting hours and light conditions were sufficient for identification. All fatal accidents, with the exception of one hunter felled by a stray bullet 30 minutes after the opening hour, occurred between 9:10 a.m. and 4:00 p.m.

Of the 24 fatal accidents recorded from April 17, 1967, to December 16, 1967, 20 were inflicted by others. Nine fatalities occurred when a hunter's firearm accidentally discharged while in his hands. A ricochet or stray bullet accounted for two fatalities.

Under the categories "Victim in Line of Fire" and "Victim Shot in Mistake for Game," 13 persons were fatally wounded. Nine of these 13 victims wore no conspicuous, bright-colored clothing. Of the year's 24 fatalities, 15 wore no conspicuous bright color. Only one of these 24 accidents involved a first-year hunter, while up to 35 years' hunting experience was listed by the offenders in the remaining 23 cases.

Hunting casualties have caused increased concern about providing additional safety education for Pennsyl-

vania's million-plus hunters. Legislation requiring big game firearms hunters to wear 250 square inches of fluorescent blaze orange which is visible from all angles has the approval of the Game Commission.

Pennsylvania's hunters have already demonstrated responsible safety attitudes when weather or light conditions affect proper identification of the target. Further establishing the proper attitude toward safety through the wearing of conspicuous color will certainly decrease hunting accidents.

Hunting Accidents—1967

	<i>Fatal</i>	<i>Non-Fatal</i>	<i>Total</i>
Pre-Season	3	31	34
Woodchuck	3	35	38
Archery	—	19	19
Small Game	4	289	293
Big Game (Bear) ..	2	3	5
Big Game (Deer) ..	12	77	89
Total	24	454	478

FFA GROUP from Penn's Manor High School, Clymer, gives safety program. Dennis Koscho, Tim King, Fred Kuzemchak and Taylor Myers present thirteen points of safety.



Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—8262

Students—142,907

Pennsylvania's First Spring Gobbler Season Is Almost Here! Have You Learned to . . .



TALK TURKEY?

By Don Shiner

EXCITED about the upcoming spring gobbler hunt? Many hunters are. They've already dusted off their turkey calls and scouted for signs of birds. They're preparing to step into the forest and talk turkey at dawn on opening day—May 6—just a few short weeks from now.

It's been possible for some time to gun spring gobblers in various other states, notably in the South, but this season is a milestone in the annals of Pennsylvania. Of course, you know the regulations — quarry is limited to bearded birds, gainfully taken with shotgun or bow during the time from

one-half hour before sunrise until 10 a.m., EDST. Since sunrise occurs at slightly different times across the state, each hunter should check the Hunting Digest issued with his license for the precise opening time in his area. This regulation is to encourage hunters to move in close for effective shooting, and thereby be able to distinguish the gobbler, by his long waggling chest beard, from the more numerous and usually smaller hens. By protecting the females at this time, there is no loss in egg production to affect the turkey population in the fall.

Getting close to this wary bird is

anything but easy. But it can be done.

One hears stories, from time to time, about hunters walking right up to flocks feeding in open stands of beech or oak and banging bearded birds. It happens on occasion. Quite likely the day is damp or windy when noise of leaves crunching under foot is erased. But this is the exception. Turkeys possess extremely keen eyesight and hearing, and are among the most alert creatures in the forest. It is a real feat to move in close without spooking them and having the group vanish into thin air.

Calls Good in Spring

Most hunters prefer other methods of hunting this grand bird. They hide, where there are signs of turkeys, and sound calls. Their yelps imitate lost hens, or maybe challenging calls of other male birds vying for coveted flocks. Because calls are more effective during the spring than at other times, it is a recommended way of getting a gobbler.

If you've always dreamed of someday calling one in, join the yelping crowd. Begin by getting a turkey call, perhaps one made right here in Pennsylvania. Since the Keystone is a leading state for wild turkeys, it is not surprising that many talented and enterprising hunters are devoting time to manufacturing turkey calls on a commercial basis. We'd like to discuss four of these this month. Doubtless others do an equally good job, but we have not used them and so cannot comment. We'll discuss these four, and mention two other items—a recording of turkey calls and a reprint of a book long out of print—that will help the newcomer in his first venture at gob-

bler hunting. Let's look first at the calls.

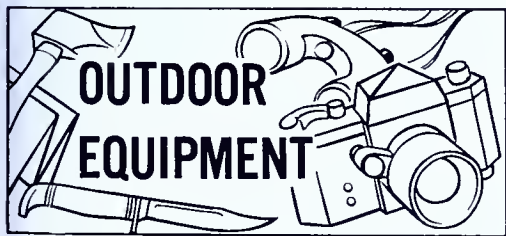
The box call is one of the most respected instruments in the field. Several firms in Pennsylvania produce this one, though dimension-wise they are not alike. The Penn's Woods Call Company, 124 Stotler Drive, Delmont, makes one that is fully 11 inches long. Lou Stevenson, Inc., Wellsboro, makes another that measures 8 inches. These calls are of one-piece construction, of walnut or other hardwood blocks, with hollowed out interiors. Sides, about 1/16 inch thick, serve as sounding boards. A long handle, slightly rounded on the underside, is permanently attached at one end.

Clear, ear-piercing yelps are easily sounded by moving the handle across one side of the box. Because the handle is permanently attached, it is nearly always moved in precisely the right angle to give yelps that sound like those of live birds. Sour notes are few. This is important. Off-key yelps alarm turkeys which have answered and are coming in. Although the dimensions of box and swiveling handle vary from one manufacturer to another, this is apparently of less importance than the basic design of the instruments. Newcomers do well with this one.

Trumpet Yelper Good

An equally good call is the trumpet yelper, a modern version of the old wing-bone trumpet. It excels in the hands of an expert, but is a bit difficult to master.

It is made with a long thin barrel of hardwood and a mouthpiece of rubber. The instrument is played by placing one's lips against the mouthpiece and sucking in air sharply. One hand is cupped like a mute around the bell. Coarse, throaty calls are sounded after some practice. Many a hunter has bagged his gobbler after sounding yelps with this one. It is available from the Penn's Woods Call Company, and is listed as the Tom Turpin yelper in their literature.

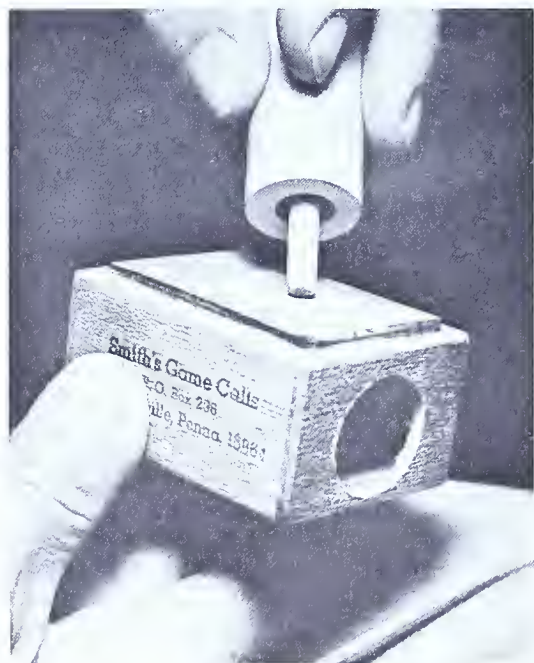


A third outstanding call is the "motionless" or diaphragm call. It consists of a metal washer folded in half with rubber diaphragm sandwiched between. The hunter places it in his mouth and makes the sound by a sharp exhalation of air, huffed from deep inside. It is available from the above mentioned company.

I was first introduced to this diaphragm call back in 1963 by Sam Reed of Pine Grove Mills, then a Pennsylvania Game Commission land manager. Sam told me that he used this design for a long time, obtaining models from Fred Cox of Lock Haven, who had been making them for many years. Sam said he preferred this model to all others, though he admitted it was a difficult instrument to master.

There are advantages to this model not inherent in others. It is small and kept in the hunter's mouth. Many birds spook at the critical time when a gobbler walks those last few yards into gun range. They sometime catch the movement of the hunter pushing

SLATE CALL is rapidly gaining in popularity. Small size makes it easy to carry in gobbler hunter's pocket.



a hand-operated call aside and swinging his gun into position. The birds whirl about and are gone. There are no problems of this nature when the diaphragm model is used. Once hunters get the hang of using it, sounding the yelp amounts to no more trouble than whistling for a dog.

Slate Call

The slate call is a fourth model worth mentioning. This is one of the newer ones rapidly gaining a following among turkey hunters in this state. It is a thin-sided hardwood box with a circular opening on one side and piece of slate imbedded in the top. The sound is made by rubbing a pointed stick in a circular manner over the slate. It is of a size that easily slips into a shirt pocket. Smith Game Calls, Summerville, Pa., makes this one.

Those skilled at playing tuneful choruses very likely will carry bearded gobblers from the woods this spring. Novices sometimes have trouble.

One often hears complaints from novices that calls are difficult to use properly. Instructions accompanying most calls are partly to blame. Most are too brief, and are little help to those who have never heard the spine-tingling yelp of wild turkeys in the forest. They simply have no way to gauge the accuracy of their notes. Besides the turkey's whining-yelp, most calls can produce sounds similar to those of starlings, blue jays, black-capped chickadees, and perhaps the meows of house cats as well. The novice is at a loss to know whether notes should be of high or low pitch, long or short duration, and he knows nothing of the rhythm involved. Some instructions packed with calls advise beginners to visit local farms and practice gobbling like domestic birds. This can be helpful.

A better way to quickly learn turkey talk is by listening to a recording which faithfully reproduces the numerous calls. One 33 $\frac{1}{3}$ rpm recording,

marketed by Penn's Woods Call Company, does an excellent job of this. It is narrated by Roger Latham, noted wild turkey authority and outdoor columnist for the *Pittsburgh Press*.

Latham demonstrates numerous turkey calls and tells how to make them on various instruments. His commentary includes explanations about the basic yelp, and the perts, putts, clucks and gobbles so useful during the spring mating season. Latham concludes with advice for hunting this bird, and underscores the fact that they have unbelievably keen eyesight and hearing, senses which enable them to quickly detect non-too-careful hunters.

There are other similar recordings on the market. Another is available from Smith Game Calls. These are a great help to novices.

Turpin's Book

We also recommend Tom Turpin's book, *Hunting the Wild Turkey*, long out of print but now released in a soft-cover edition by Penn's Woods.

Tom Turpin was one of the all-time greats who knew wild turkeys like few others ever have. He spent a lifetime studying this bird, finally penning a highly readable book that has become legend. He discloses many techniques never before mentioned by writers.

Turpin wrote that it is possible to locate turkeys at dawn, before they leave the roost, by making a series of owl hoots. He claims that gobblers will answer with a gobble or two. With their whereabouts established, hunters can now sound a few choice calls to lure them into range.

Of course, one must be familiar with the territory and know possible roosting areas before this tip is of use. Otherwise he must locate flocks by signs on the forest floor that betray their presence. Signs include leaves, raked in a way that suggests being worked over with pitchforks, as well as white-tipped droppings and an oc-



THREE FAVORITE turkey calls (from top): box call, trumpet yelper, and diaphragm. All will bring in gobblers if properly used.

casional dark-hued feather.

Turpin believes that male turkeys succumb first to the mating urge. During the pre-mating phase, bearded toms seek out the hens, and come quickly, at dawn, to calls by hunters.

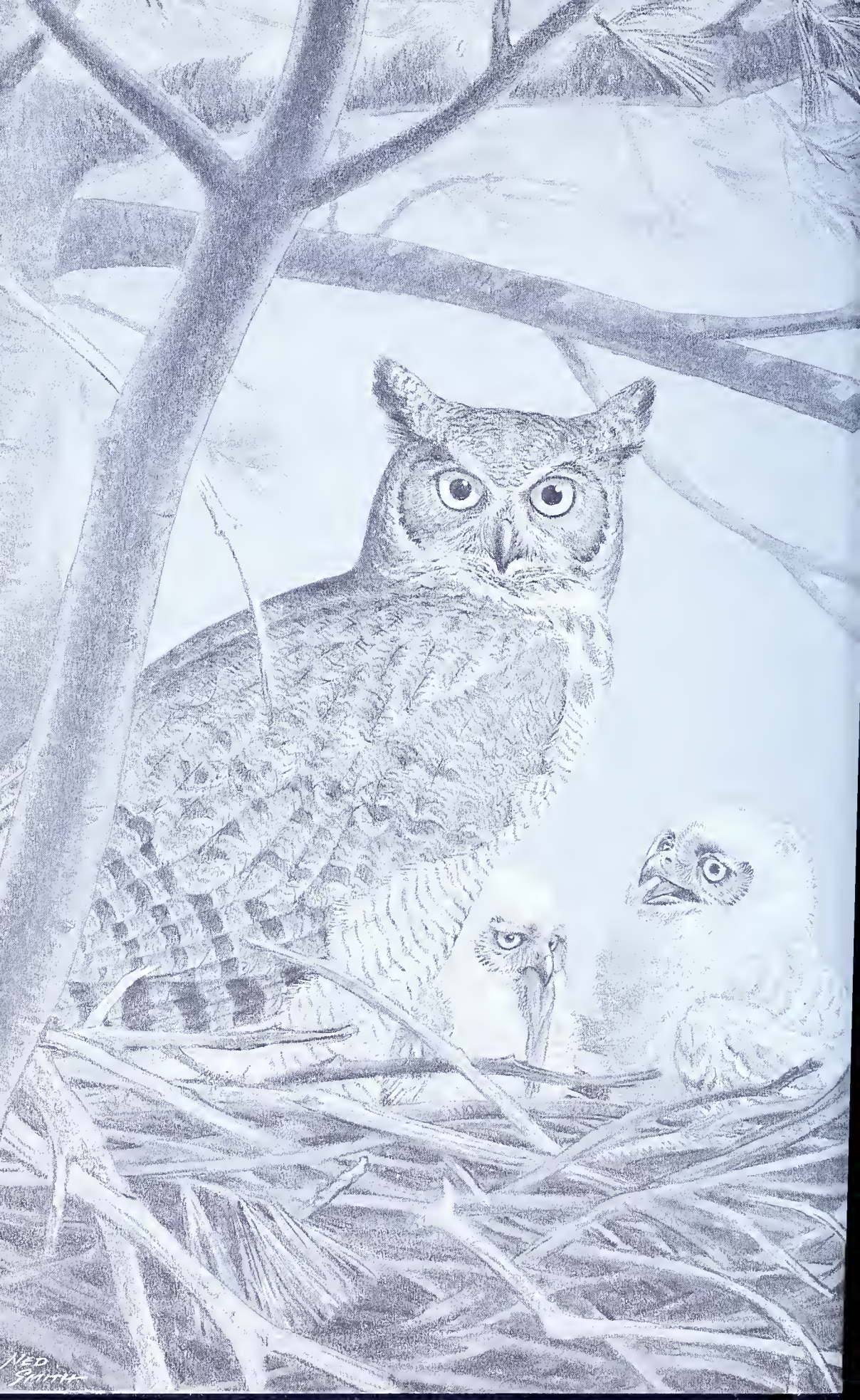
Tom Turpin's book is worth reading.

I don't need to reiterate that hunters are up against wary opponents this spring season. They need all the knowledge and skill they can acquire. But few undertakings give a greater sense of accomplishment than outwitting this crafty bird and walking out of the woods with a bearded one dangling from one's shoulder.

Turkey Trophies

You'll want to save the long coarse beard, and maybe a few feathers, for framing and displaying on the game room wall.

So you had better obtain a call and get in tune now, for time is short. If you're a bit rusty or hazy on what calls to make, listening to a recording will help. Read Tom Turpin's book. There might be a gobbler in it for you this spring. But win or lose, there's excitement for all who walk into the forest this spring for a go at gobbler hunting.





By NED SMITH

Spring provides a varied diet-- a squirrel for baby owls, tree sap for a kinglet, earthworms for some gulls, and wild greens for the adventuresome outdoorsman.

LOVE is far from being an exclusively human affliction. Any warm April day you can see and hear plenty of evidence that courtship is practiced as ardently by wildlife of every sort, if you but recognize it.

This morning in Cumming's swamp I tried to analyze the cacophony of bird songs and froggy sounds that are part of wildlife's business of settling down and finding a mate. Before me a trio of male grackles in a birch tree faced a half-interested female. Their necks stretched upward and their long bills pointed stiffly toward the zenith. The morning sun painted their sleek necks and breasts with gorgeous blue iridescence. For a long time they posed as in a trance, perfectly motionless except to blink an eye or shuffle uncomfortably along a branch. Then a movement by the female broke the spell. One suitor immediately drew in his head, fluffed out his feathers, and "sang" the most discordant noises imaginable. The others followed suit, but in the midst of the performance the female flew away, followed by her admirers.

On the grassy causeway a group of male cowbirds surrounded a drab female, strutting in a frenzy of competition. At intervals each male would

stop in his tracks to spread his drooping wings and tail. Neck arched and plumage rising with emotion, he choked out his remarkable song—a gurgling phrase that sounded like water being poured from a bottle.

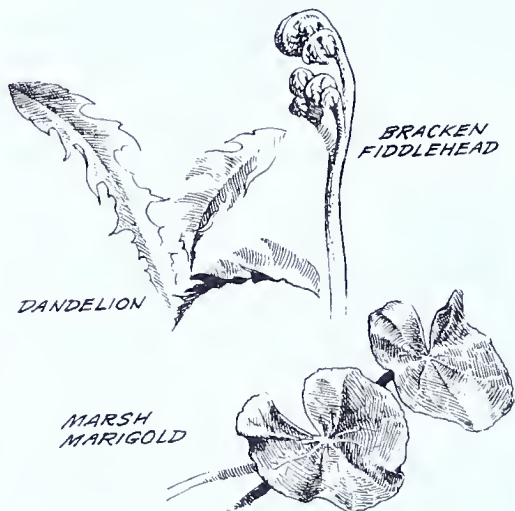
At the edge of the swamp a male redwing flew back and forth from cattail to bush, fluffing out his striking red wing coverts each time he touched down. This was his territory and he wanted the world to know it. The female redwings had not yet arrived from the south, but when they did his scarlet epaulets would be displayed before them on outstretched wings.

Off through the trees I heard the excited *whick-up, whick-up* of a pair of flickers as they bowed to one another and showed off the yellow under surfaces of their wings and tails.

Among the undulating reflections a muskrat wooed his lady love. 'Round and 'round they swam, she in the lead and her suitor almost touching her left hip. His familiarity was tolerated—a favorable sign—and they finally disappeared among the flooded tree trunks.

Somewhere in the mountains a grouse is drumming, and in a forest clearing a wild turkey gobbler struts his stuff. This evening a woodcock

will dazzle a passing female with his amazing courtship flight. The wise outdoorsman will take advantage of this season of feverish activity; at no other time is wildlife so easy to find and so rewarding to observe.



April 1—Well, the rains have finally tapered off and the river has crested, but for awhile it looked as though we were in for a flood. This afternoon I pulled on a pair of boots and eased along the edge of the wooded shoreline, sometimes in the water and sometimes out of it, watching muskrats coming and going and drowned-out mice scrambling beneath the weeds. Midway along the border of one field a whistling swan in its dingy yearling plumage fed unsuspectingly among flooded trees and brush. I decided to see just how alert a young wild swan would prove to be.

Making little attempt to keep out of sight I quietly walked up behind him as he dabbled in the muddy water. He didn't know I was there, but at that moment two adult swans that I hadn't seen before spotted me from just beyond the fringe of trees. Running across the open water to get up speed for a take-off, the clatter of their feet brought the young bird to attention. Seeing me, he called softly and headed for the open river, but the underbrush and surrounding maze of

driftwood made a running take-off impossible. I could have easily caught him had I been so inclined, but he eventually struggled over the last piece of flotsam and made it to the river where he finally got into the air.

April 4—No wonder we have an abundance of doves; they seem to nest nearly the year 'round. Jim S. told me the young ones left the nest in his pine tree today. They'll probably have young of their own before the year is out.

April 6—A friend found a great horned owl on her nest on the mountain behind his house, and one day when she was absent climbed the big pine. He found no eggs, but two baby owls. Like all owlets they hissed and snapped their beaks, but he stroked their downy heads and they soon calmed down. When told of the find, I wanted to get some photos. Today we set up a blind on the slope above the big white pine. The nest is still too high and far away for first-rate pictures, even with the big 600 mm lens, but if I can't do anything else I'll enjoy watching the goings-on.

April 10—The horned owl was on her nest when I visited the blind this afternoon, but she flew away when I tied back a few branches that were in the way. I set up the camera on a tripod and watched through the big lens. Only the heads of the owlets showed above the edge. The little fellows acted like bored children—yawning, staring at their toes, shifting from one leg to the other—until about 4 p.m. when they perked up and began calling. Obviously they had seen their mother.

Suddenly, there was a thump in the leaves beside the blind, followed by some more rustling, and the old owl unexpectedly flapped up to the nest carrying a gray squirrel. She must have caught it within 20 feet of the blind.

Unfortunately, she faced quartering

away from the blind to feed the young, so the few pictures I took will not be the best, but between shots I watched through the telephoto. She immediately began tearing the squirrel apart (not an easy task) and passing the pieces back to the owlets positioned on either side of her legs. When the last bite was gulped down I looked at my watch. The meal had lasted an hour and ten minutes!

Determined to eat everything, one youngster tried to swallow even the squirrel's tail. Lucky for me he did an about face and I was able to see it all. Gulping mightily, he managed to engulf most of it, but the last couple of inches refused to go down the hatch. He then opened his bill and shook his head repeatedly and violently to bring up the hairy meal. For some minutes he sat there in solemn contemplation, with the basal portion of the squirrel tail clamped in his beak and the rest waving in the breeze like a long, grizzled beard. Then he tried again to gulp it down. Again it hit bottom before the end disappeared, and again it was ejected. How long this went on I don't know, but it was nearly dark when I left the blind and his silhouette still sported a beard.

April 11—Every outdoorsman is familiar with the neat rows of little holes sapsuckers make in the bark of trees, but many have never seen the bird itself. It's too bad, for this secretive woodpecker, with his crown and throat patch of crimson bordered with black, is a handsome and interesting fellow.

Today I spied one quietly perforating the bark of an ash tree in Weaver's woods, and settled down to watch. He pecked a row of little holes in several locations, then flew to another part of the woods, but I was sure he'd be back when the sap began to flow. Sure enough, in a few minutes he returned. Sap was running down the tree by this time, and he quickly moved from one hole to the next, lapping it up.

From there he flitted to another set of holes. When he had drunk from all the ash tree's wounds he left—making the rounds of other trees I suppose.

In his absence, a tiny ruby-crowned kinglet, whose remarkable song I'd been hearing all the while, flew over to a set of oozing punctures and hovered before them like a hummingbird. At first I thought he was capturing small insects attracted by the sap, but by watching him through the binocular I soon established that he was really drinking the sap itself. He, too, made the rounds—hovering in midair while he tiddled, except at one place where a nearby twig provided a perch. He moved away when the sapsucker returned, but had a few more swigs as soon as it left.



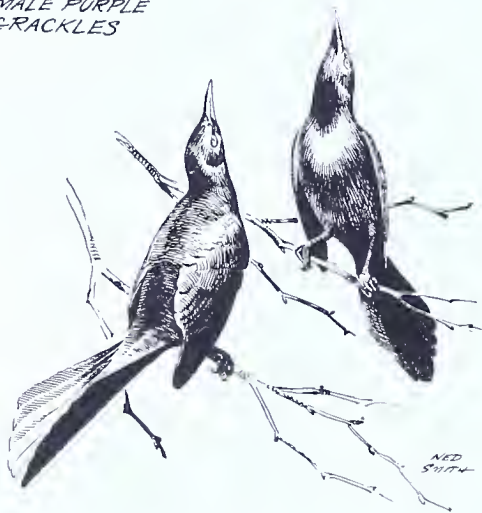
YELLOW-BELLIED
SAPSUCKER

April 18—We've had nearly a week of April's celebrated showers and everything is pretty well saturated. This morning I was surprised to see a flock of about 20 ring-billed gulls wandering about on our back lawn feeding on something in the soggy grass. Through the binocs I discovered that they were picking up earthworms that had been flooded out of their burrows.

April 19—Sunshine at last, and this afternoon there were groundhogs everywhere. One grayish one thought I hadn't seen him as I walked along the

hillside overlooking his gully. He hugged the bare ground near his burrow and moved not a whisker. I continued walking, but out of the corner of my eye I could see him beginning to creep toward the mouth of his den, oozing over the ground so slowly that the movement was nearly imperceptible. He never did bolt, but slid into his hole as smoothly as a snake.

MALE PURPLE
GRACKLES



April 20—Dick M. has a pair of baby flying squirrels in a bluebird house behind his house at the foot of Mahantango Mountain. The front of the box is hinged, and he dropped it to reveal the nest of finely shredded inner bark and the half-grown babies curled up inside. Their eyes were still closed but they were well furred. Their tails were narrow and dark, but distinctly flattened.

While we worked, the anxious mother scrambled about, sailing from tree trunk to tree trunk, sometimes almost within arm's length of us. As we closed the box I squeaked gently and she soared from a nearby tree to land on my trouser leg. From there she leaped to the stepladder and, scaling it, disappeared into the nest box.

April 21—This is the big month for wild greens, and we've been taking advantage of them—dandelion, bracken, marsh marigold, and the like. The delicious shoots of the poke and milkweed are just now appearing. Our most notable and delectably successful experiment consisted of substituting winter cress for spinach in our favorite souffle recipe. Dee-licious!

April 22—Ask the average person to identify those trees whose gauzy white blossoms are first to brighten the drab mountainsides and they'll probably call them anything from dogwood to cherry. The truth is, they are Juneberries, also known as serviceberries and shadbush. There are a number of species, some mere bushes and others attaining tree size, but all bear sweet, edible fruit. The better ones make excellent pie filling if you don't mind the numerous, but small and reasonably soft, seeds.

April 29—The poor robin that is trying to build a nest in our spruce tree is not having an easy time of it. A male English sparrow continually steals material from her unfinished nest to add to one he and his mate are building less than three feet higher in the same tree! The male robin finally got his dander up, but though he chases the sparrow 'round and 'round the tree the latter remains unimpressed. As soon as the robin turns his back he is back again, robbing them blind.

Impudence of this magnitude has made the English sparrow pretty thoroughly detested, but it must be admitted that this bird has succeeded admirably in establishing itself in an alien land. Since its importation and release in Brooklyn in the mid-1800s it has spread to every corner of the United States and much of Canada with little intentional aid from Man.

Thank Goodness

Most of the 2500 species of mosquitoes that live in the world today never bite humans.

Starting a Shot

By Keith C. Schuyler

EACH YEAR a new group of youngsters and archery converts stands on the sidelines until they tire of watching. They are too embarrassed to ask for help or to demonstrate their ineptitude before experienced hunters. It is important that these people get the attention to which they are entitled. They couldn't care less about six golds (probably don't know what it means) or a 20 on the peepers. They just want to shoot the bow.

In an effort to fit the situation to the sermon, we are going to reintroduce some of the elementary into this column from time to time. This is the first. It is easy to say that we all need a review, but you aren't likely to buy just this. Consequently, we are going to combine this so-called elementary information with something new.

This will be an effort to equate information for the target line with bow hunting for big game. We are going to skip over field archery per se except for appropriate references. This is not due to any lack of interest, but because target archery and field archery have become quite similar. (Too similar, perhaps.)

For example, your footing is not normally so good on a field range as it is on a target archery range. Nevertheless, you can take your good old time drawing in on the target on either a gold ring or the pimple on a field target. And distances are known. Not so in hunting. You may be in the worst possible position for a shot and have no more than a few seconds to get it away.

So let's go right back to where each of us started in archery. The photos should help. Bill Wise, who is primarily a field archer, and Barry Beck, a left-handed shooter who leans to-



FIG. 1—BARRY BECK shows his target stance on indoor range. Beginners should be well grounded in the basics before departing from recommended positions.

ward the target line, agreed to help out with this chore. Each shoots a respectable score on the target line or field course, and both have killed deer.

Stance on the Line

Stance is the most important part of the approach to bow shooting. One should face about 90° from the target with the weight evenly distributed between the feet. Any other approach is incorrect from the standpoint of good form.

Let's understand one thing right now. There is always someone who learned improperly but well, or who is physically unable to use proper form, or who is successfully stubborn. These people are exceptions to the general rules and their styles should be discounted in the overall approach to good shooting.

One more caution is in order. Don't go back through an old archery book somebody gave your father as a birthday present 20 years ago and use this as a basis for disputing what you read here. In fact, one of the primary reasons for attempting this series is the obvious need for it by anyone who

has studied the history of archery. You will find many statements by yesteryear's authors which today can be completely or partially discounted.

We are using better, and in many instances, different, equipment. Its design requires changes in the approach to certain aspects of shooting. It sometimes permits more leeway in personal adaptation to the basic tenets of good form.

Once the bow is drawn, the body becomes a shooting platform. To maintain maximum stability on this platform, the weight must be as evenly distributed as possible. At the draw, there will be an imperceptible shifting of weight forward to maintain this balance if good form is used. Leaning back or hunching forward only invites the introduction of bad habits.

If you will refer to the photo of Barry at the indoor shooting line (Fig. 1), you will notice that he has a tendency to address himself slightly to the target. This is the typical target shooting stance of those who use the common center-of-chin anchor. It is necessary to drop the shoulder back slightly to clear the string.

FIG. 2.—BILL WISE SHOWS HOW bow hunter must compensate for uneven ground by planting feet firmly and leaning forward to distribute weight.



The same target shooter can pull a much stronger bow, assuming all else is the same, by using the full, 90°, stance. However, since most target shooters use fairly lightweight bows, this frontal approach is no problem. Those who use the corner of the mouth or the cheek for anchor point tend to hold to the classic, 90° position.

Basics Are Similar

It is easy to explain and to illustrate stance on the target line. In the field, it becomes much more difficult. Still, the basics are much the same. For example, study the photo of Bill standing on the side hill and aiming at a 45° angle up the hill (Fig. 2). You will note that he is leaning slightly forward to distribute the weight as much as possible as in the manner where footing is solid and level. You need a solid platform here even more than on the range, since there are many things in nature which tend to compound your problems and to confound your efforts.

It must constantly be borne in mind that the bow hunter usually has but one shot. It becomes doubly important that he use every advantage available to him. If he does much field course shooting, which he certainly should before going bow hunting, he can learn to practice balance. Some of the more rugged field courses really have their ups and downs, and they offer an excellent chance to develop this balance. Any time you attempt to shoot without having your weight as nearly evenly distributed on both legs as possible, you are handicapping yourself.

Sure, there are times when you can't do much about it. But if you are conscious of the need, there will be fewer times that you will get yourself into awkward positions. Don't forget that the slightest deviation at the release point will be greatly magnified by the time the arrow approaches its intended target.

If we seem to belabor this business



FIG. 3—MOST HUNTERS use broad, conventional arrow rest for heavy wood or fiber glass shafts.

of stance, consider how ridiculous it is to develop near perfect shooting form on the target line and then toss away all that has been learned when we hit the field. There must be reasons for the extremely poor success ratio of bow hunters in relation to their proven abilities on the target line. Maybe we can uncover some of the reasons in this series.

The Arrow Rest

You seldom will find anybody shooting on the target line with the arrow rest which came with the bow being shot. On the other hand, hunters quite frequently use the broad rest which is provided on many hunting bows.

Target shooters lean to the tiny plastic arrow rests which are barely large enough to hold a thin aluminum shaft. In using such equipment, whether they are conscious of it or not, they are minimizing the natural whipping effect of an arrow leaving the bow.

It is this ability of the arrow to bend and then straighten itself which has always made it possible to shoot along and against the side of a heavy stick of wood and still have the arrow go toward the target. This is known as the archer's paradox—a subject which requires treatment of itself and one that we will not go into here.



FIG. 4—TARGET SHOOTERS use narrow plastic arrow rests. Here, nocking point is measured with folded newspaper about half inch above rest.

Since it is impossible to do away with this bending of the shaft (a result of the arrow's inertia), the plastic rests merely reduce the effects.

These delicate rests work fine on the target range but you are unlikely to see them on the hunter's bow. So here is another handicap against the poor hunter. Again, there are reasons.

The average target bow today goes some 32 to 35 pounds in weight, the average hunting bow about ten pounds heavier. The latter not only requires a heavier shaft to withstand the power, but it must also be a shaft strong enough to overcome the inertia of a hunting head of as much as 150 grains. It thus is necessary to use an arrow of the same material with a spine which would be appropriate for a bow of from two to five pounds stronger weight. More simply, you could convert target shafts, spined for a 43-pound bow, to hunting arrows appropriate for a 40-pound bow, by substituting a broadhead for the target head and longer feathers for the short target vanes.

The end result *should* be a hunting arrow that performs as well as a target arrow. In practice, it doesn't work out that way. Many new influences are now working on the total arrow—such as greater friction near the head because of greater weight and stiffer

spine, a tendency to plane because of the broadhead construction, burbling of air behind the big feathers, a usual increase in the helical position of the feathers to overcome planing. There are probably some influences yet unknown, too.

Consequently, most of us settle for a feather or a fur rest right on the arrow plate itself. It makes it easy to curl the forefinger around the arrow shaft to hold it in place when scrambling through brush or hanging by the toenails along some cliff.

Of course, smart hunters equip their hunting shafts with field target heads for practice before the season opens. These should be within a few grains' weight of the broadhead. There is no completely satisfactory substitute for shooting the broadhead itself, but the obvious problems attending such practice are discouraging. (Just chalk up another handicap for the big game bow hunter.)

It is difficult to recommend any particular arrow rest for either target or hunting archery. The important thing is to try different kinds until you find one that's right for you. Then, stick to it. You will learn to overcome any changes caused by the rest, whether it is a tiny wedge of

FIG. 5 — TARGET SHOOTERS prefer finger tabs for smooth release and good feel. Note that thumb and middle finger touch lightly to insure uniformity of hold and release.

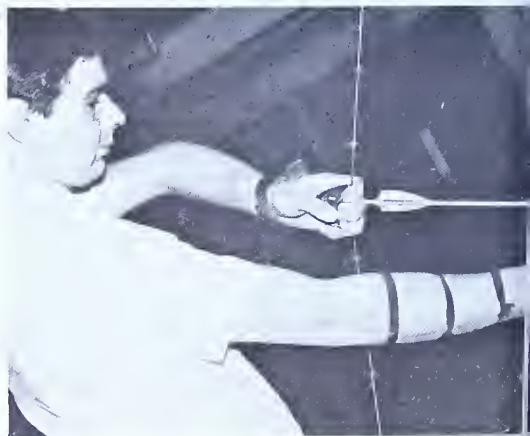




FIG. 6—HUNTERS FIND THREE-FINGERED shooting glove or conventional leather driving glove handy when afield.

plastic or just a slab of leather glued to the arrow plate.

In Fig. 3, Bill draws his arrow over a mohair rest that covers the entire arrow plate of my Bear hunting bow. In Fig. 4, Barry shows the position of his plastic target rest and one way to find the proper spot at which to mark the nocking point on the string.

The Arrow Hold

Most target archers eventually acquire a finger tab that they break in for themselves (See Fig. 5). Lars Edburgh, two-time state champ, still carries his around in his wallet so that nothing can happen to it. Hunters tend toward the three-fingered shooting glove. (See Fig. 6.) One of the best finger "tabs" I ever had was an old leather driving glove which now is lying on a bear stand somewhere in Maine.

Whatever you use, the most important thing is to hold properly—without pinching the arrow nock. Be sure that your hand is lined with the string so there will be no twist when the string bites into the groove formed by your finger joints. A deep, positive grip to the second joint is preferred by most. It is almost a necessity in the heavier weight bows. When substituting other than standard shooting gloves or tabs, be certain that you can still obtain a smooth release. During the late deer hunting season, low temperatures may tempt you to wear heavy gloves that simply will not release an arrow properly. Don't.

Now that you have your feet solidly on the ground, your arrow nocked and on the rest, take a month or so. We'll be back from time to time to fill in with information until we can all go from golds to big game.

Wonder What They All Do?


An acre of grassy meadow may harbor as many as 2,200,000 spiders.

The Little Stinger

By Don Lewis

Photos by Helen Lewis

HELEN LEWIS and her Remington Model 511 Scoremaster, twenty-seven years after receiving it. It's still one of her favorite rifles.



IT HAD RAINED earlier in the day, and the new growth of clover smelled sweet in the hot summer sun. I was really contented this evening, as it was my first hunt after leaving the army. For over three years I had been out of touch with the chuck hunting fraternity. While overseas, I had been fortunate enough to hunt deer in Germany. However, this particular evening meant a great deal to me; I was hunting with my wife Helen.

We soon spotted a big chuck legging it for a hole in a creek bank. We hurried to a spot about 50 yards from the hole and sat down. For the next 10 minutes, we talked about the things we were going to do in the future, but suddenly the chuck broke up the discussion by poking his head out. I wanted Helen to shoot, but she insisted that I take the shot. I dug my heels into the soft earth, centered the crosswires and squeezed the trigger. The chuck never knew what hit it.

I field-dressed the chuck and we

were starting back to the car when Helen whispered, "Stop!" Back at the same hole another chuck was surveying the countryside. Helen flipped the rifle to her shoulder and fired. The chuck died instantly.

"That's a dandy little rifle," I exclaimed. "How many chucks have we killed with that little hollow-point stinger?"

"I haven't the least idea. But I do know it's the most accurate 22 rifle I've ever shot," Helen answered as we walked back to get the second chuck.

The rifle we were using that evening many years ago was a simple 511 Scoremaster Remington. It may raise the ladies' eyebrows, but this rifle was my first gift to Helen. But what do you expect a dyed-in-the-wool chuck hunter to give to his dyed-in-the-wool chuck hunting girl friend?

I write this bit of nostalgia not so much to reminisce about my younger days but to show the importance of the now often overlooked 22 rimfire

rifle. Contrary to the views of some, I don't look at the common 22 as an underpowered, ineffective, short-ranged rifle for kids; to me, it's the most important rifle I ever owned.

In this day of Magnums, varminters, and wildcatters, the 22 rifle has been lost in the mad scramble for power. It can't be expected to kill cleanly at 200 yards, and it doesn't crack like the big centerfires, but it can contribute more to the basic fundamentals of gun handling and gun safety than any other rifle I know of. Always an important rifle, it still ranks with the best. It has a definite place in every gun cabinet, and, if we intend to pass on to the coming generation the wonderful sport of hunting and shooting, it's of the utmost importance that young hunters be introduced to the 22.

22 No Toy

It disturbs me to hear supposedly qualified hunters refer to the 22 as a toy. These shooters lack a great deal in firearms knowledge. The 22 is far from a toy. The high-velocity, hollow-point load shoots a 36-gr. slug out at almost 1400 feet per second. At 75 yards, it can drop a chuck deader than a doornail. I've seen farmers kill steers and oversized hogs with the 22, and no toy can do all that.

The 22's worst enemy is tradition. The Stevens Crackshot was perhaps the farm boy's favorite in the gaslight era. Now when anyone mentions a 22 the picture of a barefoot boy holding a dead rabbit beside a loving farm dog flashes through our minds. Many people think the 22 was made only for the barefoot kid in tattered clothing. As a result, to our minds the 22 rifle seems a relic of the past. When we can purchase the zipping 6 mm's, the roaring Magnums, and the blistering wildcats, what would we want with a simple 22 rifle?

It's not unusual for a father to bring his young son to my shop and unwrap an expensive high-powered varmint rifle. I scoped dozens of these rifles

and handed them to boys who were not old enough or big enough to handle this type of rifle properly. The gleam in the father's eyes might have been pride, but I believe it would have been much wiser to buy the boy a rifle he could use with ease and would not be afraid to shoot. The fact that we live in an age of affluence is not reason enough to buy a rifle that is physically and psychologically unfit for the new hunter.

When you face the issue squarely, the first years after the new hunter is licensed should be spent in learning gun safety, gun nomenclature, and how to hunt safely with others. There is not a better choice of rifles with which to start a new hunting career than the simple 22. There will be plenty of years left to lavish expensive rifles on your offspring, and then they will be mature enough to enjoy them to the fullest.

The 22 rifle is not just a plaything, and it must be treated with the same respect shown the bigger calibers, but it does have some features that make it fine for the beginner. One reason

HANDFUL OF BUSHYTAILS is Lewis's proof of the 22 rimfire's effectiveness. Squirrels are a top target for 22s.

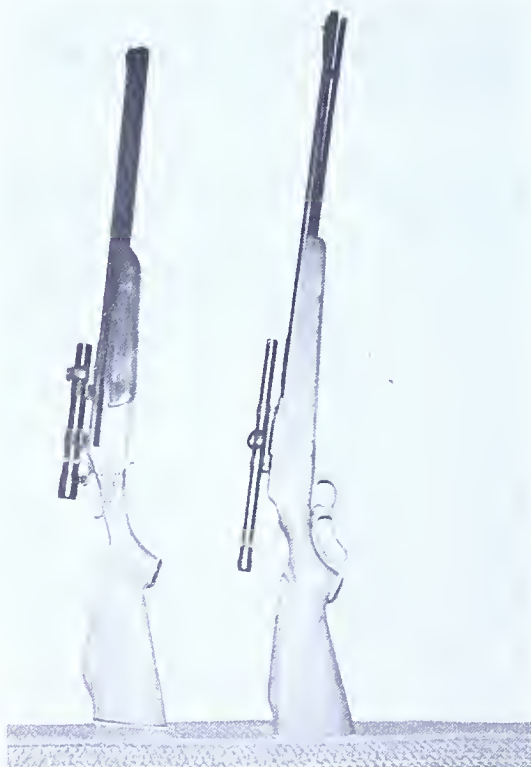


is the low cost of ammo. At less than a dollar for a box of 50, the new shooter can get a lot of practice without really putting a strain on his pocketbook. After all, the more rounds fired and the more the rifle is handled in serious practice, the more adept the novice will become.

A 22 bullet can fly as much as a mile, so this little load should always be used with caution, but for accuracy and quick kills on small game I've always considered its range at about 100 yards. I've shot crows and small chucks farther, but there is no point in trying to push this slug to extremes. On tough game, such as chucks and foxes, 75 yards can be considered the maximum range.

Because the 22 doesn't roar, it can be used in many areas where more powerful rifles would be objection-

SAVAGE M24 combines 22 and 410 tubes, with Weaver K1 scope is deadly outfit on small game. Marlin M57 handles the more powerful 22 WRM load, will take chucks at longer ranges than the 22 Long Rifle rimfire.



able. This doesn't mean it can be fired without a worry or a care. This little slug has the nasty habit of ricocheting. In flat fields or on sunbaked ground, the bullet will ricochet almost every shot. I've tested them on abandoned strip mine jobs, and it's surprising how far a tumbling slug will travel. The higher speed of the lightweight centerfires usually causes them to disintegrate when hitting solid ground, but the soft lead slug of the 22 just balls up and takes off.

Accurate Load

Quite a number of hunters think that the 22 is not only lacking in power but also in accuracy. They just won't believe that a good 22 sporter will put all its bullets in a 1½" group at 100 yards. Target rifles will do much better. Even the run of the mill 22 will group under 3" at 100 yards, and this is not to be sneezed at. Since the rifle does a much more effective job at 50 yards, I recommend all sights-ins be at this distance. At this range, the bullet still retains a good bit of its initial velocity, and trajectory is not a problem.

If I want to bring the group down to a smaller size, I switch to target ammo. This type has less velocity (about 1150 fps), but I have plenty of faith in its killing power for squirrels, crows, and rodents. If you're having an accuracy problem with your 22, try target fodder and see if you don't come up with better groups. I remember working on an expensive 22 that just would not shoot less than 2½" groups at 50 yards. I adjusted, sweated, and said some unkind things, but the best 10-shot group I fired from two boxes of shells was over 2". When I switched to target ammo, I never got much above nickel size. I decided then that accuracy was more important to me than sheer speed.

Regardless of the make or type of 22, it won't shoot any better than the scope that's on it. For a long time I was guilty of thinking that the 22 rifle

didn't deserve a high quality scope. I stuck a good many inexpensive ones on 22s and wondered why I got poor groups. When I learned that a good scope made a whale of a difference, I changed my mind about cheap scopes for 22s. I've put \$70 target type scopes on \$50 22s and watched the owner put 10 shots in a dime at 50 yards. If that doesn't make a good scope worth its cost, there's no use in even putting a scope on. The 22 has plenty to offer in the way of accuracy. A good scope, target ammunition, and practice will prove that up to 50 yards head shots on squirrels are not just figments of the imagination, but can be made consistently.

Most of today's varmint hunters have switched to the smallbore center-fires, and the 22 rimfire is seldom seen in the hands of the chuck hunter. I don't blame our chuck busters for going centerfire. The extra yardage these speedsters offer and their more humane kills are factors that can't be overlooked. Because the 22 rimfire is no longer the top load for varmint hunting doesn't prove it's been eliminated for other hunting. I can't think of a more exciting time, or one that tests the real shooting skill of the hunter more, than an evening in the squirrel woods. The reds, grays, and blacks make difficult targets, and I guarantee that not every shot will drop a squirrel.

Easy to Miss

If you do manage to connect on two or three, you'll have a feeling of real accomplishment. I recall one morning when a wary gray peeped around a big oak about 40 yards away and let me take three cracks at him before disappearing. I sure was disgusted, but I had to laugh at myself, for I had shot a very small group when I had zeroed in.

Quite a number of hunters have asked me what type of rifle I prefer. I have no real preference, but I do believe the beginner should start with



LIGHT BOLT ACTION 22 sporter proved fully adequate for squirrels in the deep woods, if shooter did his part.

a single shot. There is a variety of rifles in this category, but I found the lever action Ithaca Model 49 Saddlegun to have the features and looks that suited me. This rifle resembles the popular Model 94 Winchester carbine, and it has safety features I wanted for my two young sons. The lever opens and closes the action, but does not cock the hammer. This prevents the beginner from inadvertently leaving the hammer cocked after reloading. Other 22s have similar features, but after the carbine's popularity on television, this rifle met my sons' psychological requirements. The Saddlegun is not designed for a scope, but I reworked an old mount and I got a scope on one. Another practical thing about this model is its length. Overall, it's just a yard long—and that's short! A boy or girl can easily use it without undue straining.

The Marlin Model 57 is a lever ac-



ITHACA M49 SADDLEGUN, built to resemble the popular M94 Winchester carbine, is an excellent choice for starting off a young shooter safely.

tion that nearly matches the pump for speed. Its short stroke permits rapid fire simply by flicking three fingers of the shooting hand.

The pump action picture gives a choice of many, but Remington's 572 Fieldmaster and Winchester's Model 270 are close to perfection. The Fieldmaster has been a favorite for years. Either of these will fill the bill for general hunting and plinking. The only drawback I find with the pump is the way it consumes ammunition. I just can't resist finding some spot that's safe and banging away 8 to 10 shots at tin cans as they roll down a long hill. This just adds to the fun of owning a 22 rifle.

For those who desire some extra punch, the 22 Winchester Rimfire Magnum tosses a 40-grain jacketed bullet at over 2000 fps and adds about 50 yards to the killing range of the conventional 22. Remington recently filled the gap between the Long Rifle

bullet and the centerfires. Their entry is called the 5 mm. It's not too different from the 22 WRM. The 5 mm uses a 38-gr. hollow-point jacketed bullet at 2000 plus fps. It, along with the 22 WRM, is supposed to have a killing range of 150 yards for varmints. My testing of the 22 WRM didn't prove that to be the case. I won't buy any yardage beyond the 100 mark for the 22 WRM on chucks. If the 5 mm bullet (.2045") acts the same way, I'll put it in the same category.

There will always be a soft spot in my heart for the little 22. Someday I may own a variety of high-powered wildcats, a deluxe custom benchrest, and a room full of fancy varminters, but as long as I take to the woods, I'll always remember the 22 rifle and the major role it played in my life as a hunter. To some, it may be just a relic of the past, to others, a kid's gun, but to me it will always be king. That's what the Little Stinger is. . . .

Cheeky Chipmunk

The highly elastic cheek pouches of the chipmunk, a tiny animal measuring about six inches long, have been known to carry large loads. One chipmunk trapped in a study had 145 grains of wheat in its pouches, another 31 kernels of corn, a third 13 prune pits and a fourth seven large acorns.

The Armed Swiss

For centuries, the Swiss Constitution has required that every mature male be issued a gun by the army reserve. Although these guns are kept in the homes, Switzerland has virtually no armed crime.

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COVER PAINTING BY NED SMITH

The wild turkey gobbler is one of the world's great game birds. Though he has the sagacity to survive in fairly close proximity to humans, he much prefers the vast timbered areas "back of beyond." Truly, the hunter who returns from Pennsylvania's ridges with a prize such as is depicted on this month's cover will feel a kinship with his pioneer ancestors that is itself of unmeasurable worth. Our first spring gobbler season opens May 6. Take part. This painting appears through the courtesy of its owner, Roger Latham, and the Wildlife Society, Washington, D. C. It first appeared in the Society's book, *The Wild Turkey and Its Management*.

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What Is the Goal?

ASK 1000 PERSONS what they want most for their children and chances are 998 will answer, "Happiness." And yet Albert Einstein, gifted with one of the finest minds the world has known, reportedly once remarked, "Happiness is a goal for pigs." This is a shocker. It brings us up short, for it seems to violate a casually accepted cliché about our accepted way of life. Most of us would rather not be faced with such a comment, especially when it comes from someone who has earned our respect and therefore undoubtedly has a good reason for such an opinion, as it makes us think. And despite our description as rational beings, thinking is something we'd rather avoid. We prefer to reserve our mental efforts for "the finer things in life," using the clichés to take care of routine existence.

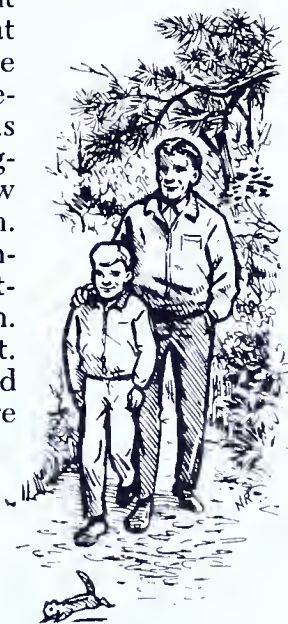
Perhaps that is why Mr. Einstein gave forth with what, for him, was a somewhat crude utterance. Doubtless it was intended to break the crust of our indifference, as the future of our children, their "goal in life" on which commencement speakers and editorial writers are so fond of pontificating, is not an unimportant segment of our lives to be commented upon with the same casualness as an observation on the weather.

And so the Einstein quote immediately raises a question. If happiness is not the goal in life, what is?

The answer is simple. Responsibility. A soldier might call it duty. They are much the same, for they recognize the interdependence of all units of a species without ignoring the value of each individual. We exist within certain relationships to others of our kind. There is no escaping this. John Donne said it best when he wrote, "No man is an island. . . ." He spoke for all mankind.

Why bring this up in GAME NEWS? For many reasons, but primarily because we are concerned with the proper management and improved quality of the outdoors, that natural segment of our environment from which we all draw the inspiration and strength that help us endure the improvements man has created in the name of progress. Future generations will need these resources even more than we do, but unless someone—such as GAME NEWS readers and writers—ingrains today's youngsters with the value of nature, and shows by example how to appreciate our few such remaining areas, they will vanish. The ultimate existence of unspoiled country depends completely upon the individual, for when he's alone in the outdoors, there's nothing but his own conscience to guide him. Ideally, he should leave it in the same condition he found it. That is, in a completely unaltered state. Any changes should be only to eliminate signs of previous human intrusion where it simply didn't belong. If, through our actions or his own instinct, he knows his responsibility here, and accepts it, everyone will benefit.

And possibly we can carry Mr. Einstein's observation a bit further and point out that happiness, in the end, is an inevitable result of responsibility.—*Bob Bell*





"Did I Ever Tell You 'Bout the Time?"

By George R. Stahl

"WELL, LADDIE, you'll never believe what happened when I faced up to that old she bear, me with no gun or nuthin' to defend myself an' she a gitten madder by the minute, thinken I meant her cubs harm."

"What'd you do, Uncle Clint, what'd you do?" Young Johnny was hanging on to the seat of his chair.

"Well, sir, I just grabbed my shavin' mirror outen my pack and bounced Old Sol's rays right smack dab in her eyes. You shoulda seen her bawl and carry on, a tryin' to figger out what kind of crazy critter had blinded her so. No, young fellow, it twasn't long afore she high-tailed it back up the ridge, cuffin' an' cussin' them cubs ahead of her."

"Golly, Uncle Clint, weren't you scared?"

"Shucks, boy, I didn't have time to think about whether I was or wasn't. You gotta keep your wits about you when sumpthin' like that happens. Now that reminds me of another time I had to do some quick thinkin' to save my hide. Lessee, it was back aroun' nineteen hunned or so, can't recall zactly when. We wuz loggin' out a stand of white pine up aroun' Twin Forks an'—."

Bill and Elizabeth Orris, finishing up the supper dishes in the kitchen, could hear the oldster's voice ramble on from one hair-raising tale to another, with frequent admiring comments and questions from their awe-stricken fourteen-year-old. "Bill," whispered Elizabeth skeptically, "Don't you think your uncle's spreading it on a bit too thick? His stories keep getting wilder and woolier and

Johnny's taking them all for gospel truth."

"Now, Liz, old Clint means no harm. Oh, he probably does exaggerate some, but the places he's been and the things he's done, he's no doubt quoting facts more often than not. Besides, Johnny's smart enough to know a story's apt to build up some in an old man's tellin'. It takes me back to the days when Grandad used to gather us youngsters around the pot-bellied stove and spin huntin' yarns till way past bedtime. He had a way with a story that made you feel you were right there livin' it with him. I guess he passed it on to Uncle Clint, for Dad was more the quiet type."

Talk With Johnny?

"Even so, Bill, I think you'd better have a talk with him before Johnny gets mixed up with all those fibs. And while we're on the subject, how long do you think he intends to stay with us? It's been well over three months now and he acts like he's here to stay."

"Now, Liz, don't get yourself upset. After all, we're the only kin he's got and we don't get to see him often. Come spring, he'll likely get the urge to drift back north to his cabin. It's not in his blood to follow the pattern of us country folks for long."

"Well, I guess I can stand his stories till then, and he is a help with the chores, but I can sure see why they nicknamed him Windy."

And even Uncle Clint would have to concede that the monicker fitted him to a T. Some folks were just natural talkers, he reasoned, and he was lucky enough to be among those so favored. Leastways, it had got

him out of a lot of tight spots and saved him from many a thrashing. Not that he'd back off from a fight, mind you, but to talk a man around to his way of thinking was considerably more satisfying and certainly a heap less painful.

But the truth of it was, though he liked to socialize he wanted his privacy too, and the deep woods was a place where a man could get all the solitude he needed. Somehow it had a way of getting a hold on a person that was hard to explain. Like the



CRAACK! CRAACK! CRAACK! The slapping sounds of the beaver tails rang out like rifle shots.

soothin' heat from a cracklin' log fire, it made you feel good, inside and out. Funny thing though, of late his thoughts had kept driftin' back to his birthplace, Bill and Lizzie's farm. He'd wake up in the middle of the night, rollin' an' tossin', yellin' for brother Ben to "Fetch the Sharps, there's a bear after the heffers!" Or cryin' out for his pa, remembering the time the black catamount sprung past the dogs and clawed his kicking leg. Even the days gave his mind no peace. Childhood memories kept comin' back, clear an' fresh, like they had just happened. His ma's laughin' face at corn-huskin' time, her blazin' black eyes when the fox took off with

her pet hen, and old Gramp Orris's Indian stories on a wind-whistlin' night that made the hair stand straight up on end. Good times, bad times, they all came back, gnawin' at his innards, hammerin' at his brain, till their demands got so out of hand that he just had to pack his gear an head south, down out of the mountains and back to the rollin' hill country and the old Orris homestead.

Pesterin' Thoughts Gone

And now that he was here, the pesterin' thoughts didn't bother him none. Oh, they were still there in the back of his mind, but not at odds with him like before. It was if they had come home too. It sure was comfortin' to know that you were among your own kind, especially when they cottoned to you the way Johnny and Bill did. Now Lizzie was a different matter. Though friendly, she had a habit of clammin' up when somethin' bothered her that warned, "Beware, trouble's a brewin'!" Lately she was gettin' more that way so he just stayed out from under foot when he saw the storm clouds gatherin'. There were times when they were milkin' or feedin' the stock that she lit up like a risin' sun, though, a talkin' and a laughin' her head off as they swapped stories back an' forth. No doubt she'd thaw out some as time went on. Deep down he hoped so, 'cause he figgered he just might finish his days here. That is, if they wanted him. "No, Sirree, old Clint never thought he'd want to come back to roost after all these years," he muttered to himself.

The slush-clogged streams grew ice bound and hungry deer floundered through belly deep drifts. Old Man Winter had come to the hill country. Clint, joints aching from the bitter cold, moved quickly about his chores, hurrying to get back to the comfortin' fire, there to bask in its glow and recall tales of winters long gone that made this one seem mild in comparison. Liz, growing exasperated at his

exaggerated claims, finally spoke out in disbelief, "Why Clint, they only get weather like that up in Alaska."

Momentarily taken aback, the oldest meekly countered, "Well, Lizzie, that's the way I 'member it."

Never-doubting Johnny was quick to come to his aid. "Golly, those were the good old days, weren't they Uncle Clint?"

"Sure were, Laddie, an' that's a fact."

Winter Gone

Then gradually winter released its frigid grip. The breaking ice moved seaward; geese honked their north-bound cries; the lean-ribbed white-tails gratefully sought the sprouting buds. Nature hastened its pulsing cycle, pushing and straining to breathe life into the awakening world. Spring merged into the balmy days of June, then the scorching heat of midsummer. Still the old woodsman mentioned no urge to migrate. His roots, too, were fast beginning to anchor and grow. Bill sensed Liz's impatience. It wasn't that she didn't like old Clint. But being sober by nature, she found it hard to accept his boisterous manner and harder still to swallow his many yarns which she swore were pure fabrications. So it wasn't too surprising that when Johnny asked permission to spend a few days at Bill's hunting camp with Clint, Liz gave fast approval. It all started when the District Game Protector, Sam Dabney, stopped by to borrow their post hole digger. "Say, Bill, what do you think I saw up in the Kettle last week?" he asked.

"A bear most likely, Sam."

"No, I was back in there hunting a pack of deer-running dogs and I came across a family of beavers patching up Rattlesnake Dam."

"You don't say! Why, we've had no beaver in these parts for years. How long's it been, Uncle Clint?"

"Waal, Bill, I recollect your pa and I trappin' a few outen there when we

were somewheres near Johnny's age, an' they did bring some fancy prices then. 'Course, that's why they disappeared hereabouts. Now, when I was a trappin' up along the Sinnemahonie back in '98—."

"Uncle Clint!" Johnny burst in excitedly. "Let's you and me go up to the Kettle and take a look at those beavers. We can stay at the cabin, it's only a couple of miles from the dam, wouldn't that be okay, Dad?"

"Let's see now. Guess the work's pretty well caught up and the outing might do you both good. How about it Liz?"

"Yes, it's all right with me. But be sure and take your snake bite kit along. That place is full of rattlers."

"Shucks, me and Uncle Clint can handle a few old snakes, can't we Uncle Clint?"



FRIGHTENED DEER ran past, some wading into the lake, trying to escape the flames. Nervously, Johnny watched the fire burn closer and closer.

"Sure, Laddie, that we can," responded the old hunter. "Speakin' of snakes, that brings back the time—."

Several days later the two were chugging along the river road in Clint's battered pickup, with enough grub in the back to feed an army. "That woods air gives you a man's appetite, Son, an' you'll have to go

some to keep up with Clint, the way he stashes it away," Liz had quipped.

Reaching the junction of the Rattlesnake, they headed north in a cloud of dust, winding erratically in and out of the pine-forested hills to the valley's end, the Kettle. Here, along the giant pot's rim, Johnny's dad had built a log-chinked cabin to hunt the deer, turkey and grouse that thrived below. Its ample food and water supply made the natural shelter a virtual wildlife paradise.

Nature Always Same

As they stopped on the rustic porch to survey the breathtaking view, the old woodsman was unusually silent. "Laddie," he said softly, "people change so with the years that sometimes you hardly know how to take them, but nature is always the same old friend, going her quiet way like she knows where she's headed, an' like a good book, she'll learn you well if you take the time to study her closely."

"Yeah, Uncle Clint, I know exactly what you mean."

"Well, young fellow, what do you say we unload our vittles an' have some supper? Tomorrow mornin' we'll take a look at them flat-tails."

The pine-scented breeze drifting through the cabin windows made sleeping a pure pleasure and the old-timer dozed fast away into a steady snore. It wasn't till the overpowering smell of perking coffee hit his nostrils that he realized the boy was up and ready with breakfast. "C'mon, pardner, rise and shine! We got a heap of walkin' to do and I'm mighty hungry!"

"Comin', boy, comin'. Just let me git my britches on."

Taking an extra swig of the syrupy Java to wash down the last hard bite of bacon, Clint breathed a sigh of relief and pushed away from the table. "One thing sure, Laddie, you do cook your vittles well. Now that bacon sort of reminds me of the jerky we used to make fer our huntin' trips.

Real good it was fer curbin' the appetite. You just sort of sucked on it all day like a chew of tobaccy."

"Wait'll you taste my pancakes, Uncle Clint. Dad says there's nothin' like them."

"That I believe, Laddie, that I believe. But let's do some walkin' afore we get to trying them out."

Following the meandering creek, the two hikers moved along the trail at a leisurely pace, stopping occasionally to discuss a familiar landmark or to watch the many deer that were feeding in the clearings. As they drew near the breast of the dam, the old woodsman raised his hand in caution. "Now tread lightly, boy, these little critters scare mighty easy."

Tiptoeing to the water's edge, they were greeted by a flurry of activity as the dark, furry forms scooted playfully over the lake's surface. *Craack! Craack! Craack!* The slapping sounds of the beaver tails rang out like rifle shots, warning that strangers were near. "We must have scared them off, Uncle Clint. Where do you suppose they got to?"

"See those mounds of grass and boughs along the shore? Waal, those are their lodges. They build them in two stories, one above the water level, their livin' room, an the other below the surface, their food storage room."

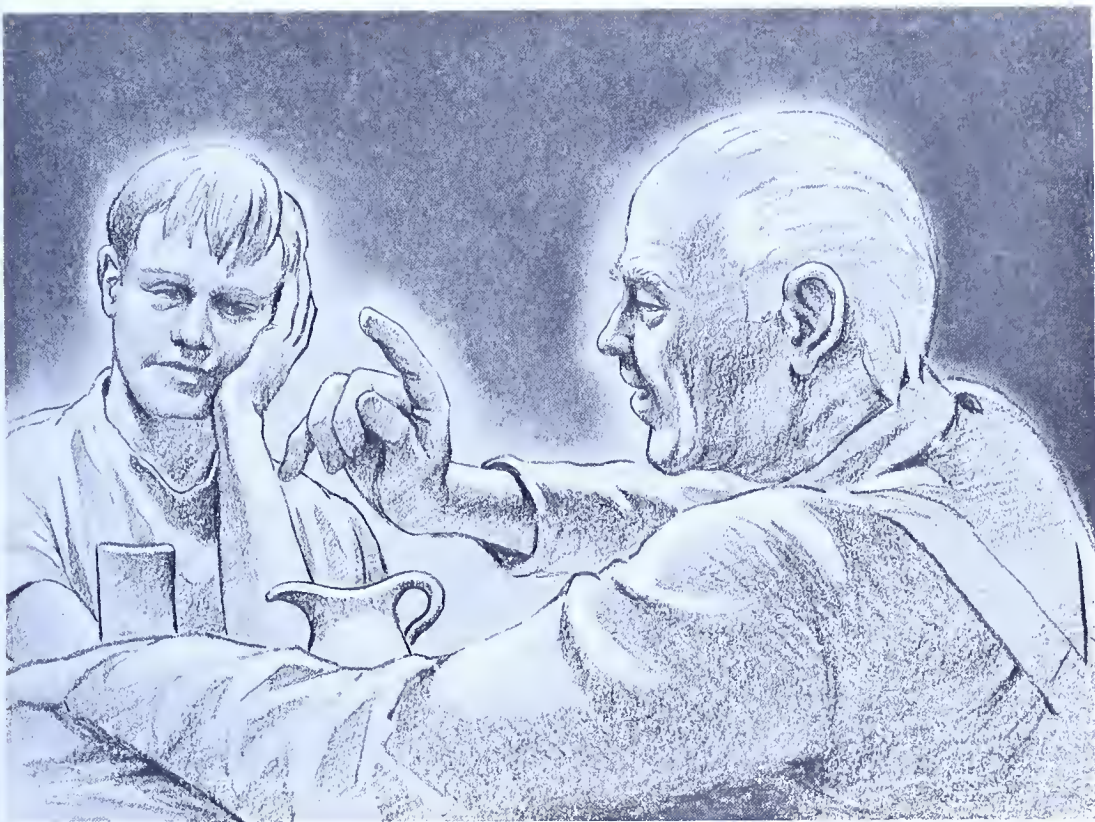
"But, Uncle Clint, how do they get air? Those mounds look awful tight."

"Well, Son, there's an air hole at the top, all covered over so's you can't see it. Now we'll just sit tight an' wait fer them to come out again."

"Golly, they sure fixed this old dam up. Why, it's bigger than our farm pond now, isn't it?"

"That it is, Laddie. Now simmer down a bit or they'll never come out."

By midday the sun's rays blazed down in blistering waves. The forest was silent. Its creatures were resting in the cooling shadows of the overhanging pines. Even the normally active beavers stayed out of sight. The old man and the boy relaxed their



THE OLDSTER'S LOUD VOICE rambled on from one hair-raising tale to another, fascinating the youngster with stories of bygone days.

vigilance. Soon, they too were dozing through the noonday sun. And while they slept, the kettle was starting to brew.

The fire started slowly at first, touched off by a berrypicker's pipe ash, then spread rapidly across the valley floor. Soon, the blaze stretched from rim to rim and in growing intensity fanned toward the beaver dam. Clint woke with a start. "Wake up, Laddie! Wake up! There's a wallopin' fire just up the valley an' we'd best hightail it out of here!"

Traveling at a fast walk, they started down the narrow woods trail. And then a short piece from the dam it happened. Clint, hurrying along, stepped in a hole and fell, striking his head with a sickening thud on an up-turned boulder. For a few agonizing moments he lay there, grimacing with pain. Then with Johnny's help, he managed to get to his feet.

"Are you hurt bad, Uncle Clint?" Johnny asked anxiously.

Dazed, the oldster could only shake his head. He tried to walk, but at the first step collapsed from the weight on a badly wrenched knee. The boy knew now that the old-timer could never make the long walk back. For an instant he stood transfixed, his young mind searching for the solution to his problem. Then, acting on his decision, he manipulated the old man to his feet and, supporting him on his sagging shoulder, half dragged, half carried his stumbling frame back to the dam. There, gently propping his bewildered uncle against a tree, he frantically searched the water's edge. Finding what he was seeking, he started to work in earnest. The four birch logs were rolled into the water and painstakingly tied together with an assortment of materials—his belt, strips from his shirt and pants, Uncle

Clint's wide-strapped suspenders. Satisfied that the makeshift raft would hold, he led his uncle into the water and eased his bulky frame onto the raft. Then pushing the weighted platform ahead of him, he directed it away from shore. When the water reached his armpits, the boy held fast and, furiously kicking, propelled it to the middle of the pond. As a final precaution, he splashed water on the old man from head to foot. With nothing more that he could do, the tired youngster clung to the raft and breathed a silent prayer, awaiting the fire's wrath.

Fire!

It wasn't long in coming. The smoke rolled through the woods in choking clouds, and the sharp snap of burning trees grew louder. Frightened deer ran past, some wading into the lake, trying to escape the flames. Nervously, Johnny watched the fire burn closer and closer. The heat was intense. Giant pines crackled and burned like matchsticks, sending hot sparks sizzling into the water. The boy had never seen anything so terrifying. But the old mountaineer, still in a state of shock, sprawled out on his water-logged stretcher, knowing or caring nothing about the raging inferno bearing down on them. Johnny doused more water on Clint's feverish form and sank lower in the cooling liquid to avoid the smothering heat. Then, when the heat seemed almost unbearable, the fire died down, rushing past them to devour the fresh fuel that lay on ahead. After several hours of waiting, the worst was over. And when Johnny heard Game Protector Dabney's searching calls, he knew they were safe. . . .

Several days later, Doc Bailey

stopped by the Orris farm to take another look at the convalescing Clint. He found the old-timer propped up in bed . . . talking. "Well, Clint, that clout on the head didn't slow you down none, now did it? Soon as the leg mends, you'll be as good as new. You're a lucky fellow to have had a quick thinking boy like Johnny with you."

"That I was, Doc, that I was."

"But, Doc," spoke up Johnny, "It was Clint that gave me the idea in the first place."

"How was that, Son? I thought he wasn't able to talk after he fell."

"Well, he wasn't. But when I was trying to figure what to do, I remembered him tellin' me about the time he rode a log down Pine Creek to get through a circling fire, so I reasoned that the water was our only chance."

"You reasoned right, Son, yet many a man would have panicked and bolted out of there to save his own skin."

"Maybe so, Doc, but Clint always said to keep your wits about you when there was trouble to face. Besides, we Orrises don't run out on our own, do we, Uncle Clint?"

"That we don't, Laddie, that we don't. Did I ever tell you bout the time your Great-Granddaddy Orris—"

Liz hustled over to rearrange the story-teller's pillow. Then, certain that he was comfortable, she gave his grizzled head an affectionate rumpling. "You and your yarns, Clint. I hope you never run out of them. Now let me fetch you some hot barley broth to help get your strength back. We Orrises have to take care of our own."

"That we do, Lizzie, that we do. Now that reminds me bout the time—."

Gone With the Wind

Spiders have been seen floating on threads of silk as far as 200 miles out to sea and as high as 2½ miles above the earth.



LOU STEVENSON of Wellsboro, one of Pennsylvania's top turkey hunters, with **Dave Knickerbocker** and **Nick Karas** and the birds they bagged.

Let's Go Gobbler Hunting!

By **Gerald A. Wunz**

PENNSYLVANIA'S first spring gobbler season, May 6 to 11, inclusive, is going to find some mighty satisfied nimrods. Naturally, the successful ones will be most enthusiastic. But many sportsmen who don't bag a bird will be thrilled just to hear Old Tom's challenge echo down through the valley at dawn. This will be incentive enough for them to try spring hunting again next year. Unfortunately, there are going to be a lot of disappointed hunters who won't even come this close to connecting with the grandest of all game bird trophies. That is, unless they are willing to absorb the basics of this new sport before opening day.

We have very few experts within our own state lines to turn to for ad-

vice on spring hunting. I have experienced this sport in another state and successfully lured a few strutting toms to the call in Penn's Woods for fun and photos, but this hardly qualifies one as proficient. Consequently, this limited personal experience must be garnished with the council of the real masters in this art from Southern states where spring hunting has been traditional. The only advice I can give with some authority is where chances of finding gobblers are best.

Where to Go

This is a statewide season, but hunting in the heavily human populated counties will be a waste of time. You may know of a few toms in a nearby patch of woods that survived last fall's

hunting, but so will a lot of other people—and spring hunting is not a competitive sport. Groups of hunters may be fine to harvest deer, but not gobblers.

For your best chance at a gobbler, go to the “big woods” counties of Northcentral Pennsylvania. Here we have the most turkeys, and the country is big enough to absorb plenty of hunters. This is the area mapped in the “Digest of Hunting and Trapping Regulations,” issued with your hunting license, where a longer turkey hunting season is allowed during the fall. Most of the mountain counties in the Southcentral part of the state also have good gobbler populations, but you may have more competition.

I can tell you where to go only in general terms. You are entirely on your own when it comes to finding that gobbler you hope to bag. To do this, you must employ methods that differ from those used in autumn turkey hunting. During the fall season, you hunt primarily with your eyes. You look for scratching or other signs where turkeys are feeding or roosting. Once located, this site can be watched from a natural place of concealment in hopes of bushwhacking a bird. Or if you're the impatient type, you walk until the flock is encountered. Then comes the fun of taking advantage of their gregarious nature by attempting to sound enough like one of them to call the scattered flock together within shotgun range.

How to Locate Gobblers

Spring hunting tactics are quite different because ears, rather than eyes, are used to locate the quarry. Spring is the turkey mating season and the tom is eager to keep every hen in his territory posted on his whereabouts with rather frequent lusty gobbles. Toms sound off most vigorously at daybreak, sometimes while still on the roost. Gobbling activity subsides as the morning wears on. Just in case you've never heard a wild gobbler,

they sound similar to the barnyard type.

The tom is perhaps most talkative and certainly most lonesome for a lady's company at the time of our spring season. This is because most hens have already been mated and are busy nesting. We timed our season purposely to give this maximum protection to turkey reproduction. And it just so happens, to the benefit of hunters, this may be the best time to lure that cautious gobbler.

A hunter can go out blindly, without knowing the location of any gobblers, and possibly be successful. If he walks far enough through the woods, pausing occasionally to call, he may rouse the interest of some silent tom who had given up hopes of finding an unclaimed hen. But this would be the hard way to do it. His chances are going to be much greater if he locates some gobbling birds before the season.

The best way to pinpoint these toms is to borrow a turkey census method used by Game Biologists and Game Protectors to keep track of the trends in our turkey population. It's called simply a “spring gobbler count.” It can be modified slightly to suit the hunter's purpose as follows: An hour before sunrise, drive along secondary roads in the area you plan to hunt. Stop at one-half mile intervals, get out of your car and listen for gobbles for three minutes or longer per stop. That's all there is to it. But you can bet that other hunters are also going to know about those toms which have set up housekeeping close to the road.

To avoid the chance of this competition fouling up your opportunities, it would pay to locate some gobblers well away from roads. This can be done by the same method, requiring only the addition of some healthful walking along remote forest trails early in the morning. You will locate more toms in a given amount of area this way because you can listen while you walk and will pick up the infre-

quent sounding gobblers that are apt to be missed when driving your car.

Learn to Call

You should be able to give a passable performance on the turkey call. Without calling, your chances of being in the right spot at the right time to ambush a gobbler are remote.

There are at least a dozen different types of callers on the market. Most callers can be easily made in a home workshop. All of these will attract turkeys some of the time, but no one type seems to be able to dupe turkeys all of the time. Each kind has its following of successful hunters who have confidence in its ability to lure turkeys.

Commercial phonograph records and tapes demonstrate the variety of turkey calls that can be imitated. These are valuable, but some of these recordings overemphasize the varied repertory of the turkey to the point of discouraging the beginner. In reality, only one basic call is usually necessary. This is the yelp. Learn to imitate this one call fairly well and you can successfully lure turkeys during either fall or spring hunts. All other calls are merely embellishments that sometimes help to coax the wary turkey.

The experts can't seem to agree on the number of hen yelps to be given in a series while calling gobblers in the spring. This advice varies from three yelps to six or seven, so it doesn't seem to make much difference. Most agree calling should be done less frequently in spring hunting. Apparently the more sedate hens of spring are not the blabbermouths of fall who often emit long series of yelps at frequent intervals when separated from their kin.

Perhaps the biggest stumbling block in the path of the novice in learning to call is the fear he will make a mistake and scare off the turkey. Turkeys make sour notes, too. If you don't believe it, make a trip to the State Wild Turkey Farm near Williamsport, and listen. Just remember that perfection in calling is desirable, but isn't always necessary. But confidence *is* necessary, and the best way to gain it is to practice on a few toms before the season—without a gun, of course!

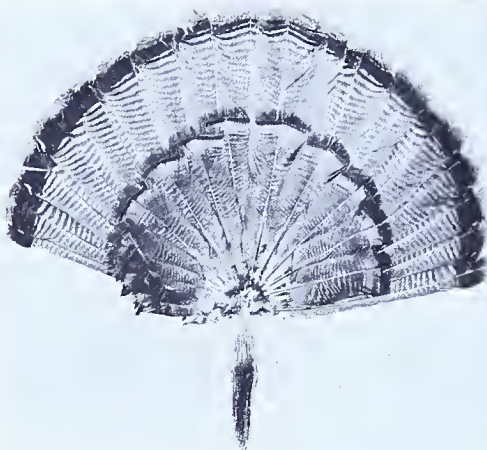
How to Hunt in the Spring

Now that you are assured of your ability to call a turkey, let's go on that spring hunt. You have arrived at camp a day early to locate some gobblers.

FOR THE FIRST TIME in Pennsylvania, gobblers will be legal game in the spring, thus adding another season for hunters' enjoyment.

Photo by Leonard Lee Rue, III





TROPHIES from the Keystone State's largest game bird, the wild gobbler. The hunter who can show a fan and beard like this is in select company.

You are in luck weatherwise. The report is favorable for at least the first few days of the season. A spell of unseasonably wintry weather could cool off the gobbler's ardor until temperatures moderate. Clear, balmy mornings are best. When you step out on the camp porch on opening morning, the stars are shining brightly. It is warm, and there's no wind. Conditions couldn't be better.

You wish your partners luck and each goes his separate way. This is one sport where two is a crowd. About the only way two or three hunters can cooperate effectively in a spring turkey hunt is for one man to do the calling while one or two of his buddies lie hidden 50 yards or so in front of him. This sometimes works for the overly cautious gobbler that won't quite come within shotgun range of the caller.

You don't like stumbling around the woods in the dark, but in this case the early worm gets the bird. It's best to be as near that gobbler as possible before he flies down from his tree roost. The tom you are going to try for was gobbling from the clearing at the mouth of Dry Hollow last evening, so it's a good bet he'll be near there this morning.

When you arrive at the clearing at

daybreak, you hear his first gobble. He's farther away than you expected. They usually won't come very far to a call, so you try to approach within 200 or 300 yards without alarming him by walking quietly in the direction of his gobbles. He continues gobbling every minute or two and you are tempted to try to sneak up close enough for a shot. But you know this would be futile against such a wary adversary with telescopic eyesight. So you discreetly stop 200 yards or more short of where you think he's located by the sound of his gobbles. Often a turkey's voice has a ventriloquial quality, so you can never be positive of his position.

Good Hiding Place

Before you call, pick a good hiding spot where he can't possibly see you until he's less than 40 yards away—that is, within good shotgun range. A natural depression in open woods is best, because turkeys are suspicious of brush or other cover. After you lie down in your "foxhole," place your gun in proper position so you won't have to make any unnecessary moves. Now you are ready to call.

The sound from your first few yelps has barely faded away when he answers with a loud gobble, then another. You answer immediately in a short series of excited sounding hen yelps. He gobbles again, then silence for at least five minutes. You call again. More silence. After a longer wait you call in desperation. Still no answer.

What went wrong, you wonder. Call sounded okay. Must have been spooked by another hunter. Or maybe he already has a girlfriend with him. They really are tough to call with this sort of competition. Guess Old Tom figures a hen at hand is worth two in the bush; and besides, the hen is supposed to come to the gobbler. You sure had these supposedly eager toms pegged wrong. They don't come running to the call as they sometimes do in the fall.

There He Is!

Your thoughts are interrupted by a light rustling in the leaves. Almost sounds like a man's footsteps, slow and deliberate. It comes closer and closer. Finally a white-crowned bluish head on a bright red neck appears over the top of a log! No mistaking that mating adornment of the gobbler in the spring. But you wait till he gets a little closer and you can see that beard.

Before you can draw a bead on that bobbing head he's airborne like a grouse, but your pattern of No. 6s on his neck at 30 yards brings him crashing back to the leaves. You're a turkey hunter!

The happy hunter who picks up and admires the prize he has just outwitted could be you if you follow these ten commandments for spring turkey hunting:

1. Learn to call.
2. Locate some gobblers before the season.
3. Be there early in the morning during the season.
4. Get as close as possible without alarming the tom.
5. Select a good hiding spot from which to call.
6. Call with confidence.
7. Keep your head down and don't move any more than needed.
8. Try to be calm (often the most difficult).
9. Don't shoot until the gobbler is within effective killing range of your shotgun.
10. Don't shoot one in the fall season.

I foolishly violated No. 10, so I can't be that happy spring hunter. Good luck to you, though!



Spring Gobbler Season Regulations

May 6 through May 11, 1968—Only bearded turkeys are legal game. Shooting hours are one-half hour before Sunrise until 10 a.m., EDST. Hunters should be out of the woods by 11 a.m., EDST. Hunting shall be by calling only. The use of dogs, electronic callers or organized drives is prohibited. The use of bows and arrows and shotguns with shot no larger than No. 2 is permitted. The use of rifles and pistols is prohibited. The use or possession of single projectile ammunition (except arrows) is prohibited. Only one turkey may be taken per hunter per license year; killing, or attempting to kill, a second turkey during a single license year is illegal.

Peripatetic Plovers

Travel is the Pacific golden plover's specialty. It nests in Alaska and spends its winters in New Zealand, stopping off at Hawaii and other islands which it locates after a 2400-mile flight.



ROSATO

*Everybody Has to Start Chuck Shooting Sometime,
and This Was . . .*

Howard's First Hunt

By Morgan Thomas

HOWARD pulled on the red sweat-shirt after making certain his license was pinned to the back of it and put a box of 243 cartridges into his hip pocket. No vest, it was too warm for that. He laced and tied his boots securely, remembering how bothersome it was to have them come undone while hunting, then grabbed his rifle, hustled out of the house, and climbed into the jalopy. After some coaxing, he was on his way.

The sky was overcast, but the weather prognosticator promised better things to come. New buds and twigs were springing out all over, giving Howard the good feeling of a dawning summer.

A squirrel ran along the road's shoulder ahead, and there were a few robins about. All these helped to signify the forthcoming season.

Howard made a right turn off the paved road onto a typical country dirt road, swerving to avoid the erosion ruts. He hit the brakes as a ringneck and two hens crossed the road almost under his tires. Something red moved in the fencerow to the right—maybe a fox. He'd heard there were many in the area. One of these days he'd try fox hunting.

Howard was an avid hunter—during the regular fall season, that is. He'd shot nearly as many deer as anyone else in the area, and several were real trophies. Some younger hunters considered him an expert with a firearm. When the small game season was on, Howard ran his eager beagle through the thickets along the river bank. He was adequate at wingshooting, deadly with a 22 on squirrels. Yes, Howard could match almost anybody when

hunting was the subject. Yet he had never shot a woodchuck.

Howard was out that day to broaden his outdoor activities. He had some time on his hands and was doing something about it by expanding his recreation. What's more, he was hoping for a good day, sort of a boost to his future of woodchuck gunning.

Howard soon came to the barn and then the modest farmhouse. He pulled over into the ditch that had held the car many times in the past. As he removed his rifle, he heard a friendly hail from the farm's owner. Howard waved and went up to talk a minute. He'd phoned earlier to ask permission to hunt. After getting some directions to the best chuck areas, he hiked across a meadow, stopping a moment

THE CHUCK moved down the field, angling slightly away. Howard moved the crosswires into line and snapped off a shot.



to load his rifle and put on the safety.

He took a peek through the scope, realizing the last time he'd looked through it was when he brought down a six-pointer in December. Chuck shooting in the summer would at least keep him in touch with his rifle, he thought.

The wind was slight. He moved across a clover field and through an apple orchard, to take a stand under a big walnut tree in the hedgerow. From here he could watch a few acres of clover and alfalfa fields, plus the orchard and some winter wheat. A corn stubble field flanked a nearby sidehill. All in all, good habitat for the game he was seeking.

It was spring and Howard was woodchuck hunting. He had been told that chucks feed heavily in the spring, since they've been hibernating all winter. At this time of the year they are all hide and no meat. Therefore, they spend much of their time eating, giving the hunter more shots.

A blue jay scolded overhead and Howard recalled taking potshots at them when he was a boy and the hunting was slow. He even got the

COMING STRAIGHT at him was a skunk! It looked as if the varmint was about to run right over him!



urge to shoot at this one, but put the idea down as childish. A dry, brown leaf that had held fast all winter drifted to his feet from a neighboring oak. The wind was rising. The clouds were breaking. Not a chuck in sight.

Then Howard heard something behind him. It was probably nothing. But he did not dare take a chance. It could be what he was looking for. He twisted, trying to spot the source of the noise. Then he saw two chipmunks busily chasing each other.

First Woodchuck

Howard sighed and tried to regain a comfortable position. Time passed slowly. He put the scope to his eye and glassed the alfalfa field and the hill directly behind. Suddenly, he spotted something. Something brown. Was it a chuck or just a clump of dirt? He watched for a telltale movement. None came. It must be just a clump of something. He settled back and waited.

After awhile he felt hungry. He cautiously withdrew a roast beef sandwich from a pocket. He didn't know if chucks could interpret what they heard, but here again he couldn't afford to take chances, so he made as little noise as possible. After he finished the sandwich he felt ready for any and all chucks. He glassed the fields intently. The green alfalfa blended with the winter wheat almost like a carpet. The wind had them waving like an ocean of green.

Hey! There was a lump in a clear space at the edge of the winter wheat. It was moving. It seemed to be coming closer, little by little. Sure enough it was a chuck! Howard waited. He didn't want to shoot into the prime meat. A friend had told him young chucks were good eating.

The brown blotch of fur moved down the field, angling slightly away now. Howard moved the crosswires into line and snapped off a shot. A miss. The woodchuck was running, not sure where the shot came from.



HOWARD RETRIEVED the chuck and headed back toward his car. It had been a good afternoon. . . .

Howard fired again. And again. The chuck rolled to a stop, tail buzzing.

Hah! Fastest gun in the East he told himself, walking toward the chuck. Then he had second thought. There were an awful lot of bolt-action rifles in the East, and quite a few fair gunners, too. It was only fair that he should consider himself about third or fourth best. He chuckled. He picked up his first chuck, noting it was hit right behind the shoulder, and carried it back to the walnut tree.

As he was watching the fields, a movement on the sidehill caught his eye. An old clearing had grown up with all sorts of vegetation. It was bordered by the cornfield. Howard put the scope on the sidehill and found seven deer moving into the corn stubble. This was hard to understand, since it was midafternoon on a bright day. Deer aren't often found out in the open under these conditions, and it seemed there couldn't be much nourishment left in that stubble after the long, hard winter. Yet there they were

apparently feeding contentedly.

For a while Howard forgot his chuck hunting and just watched the deer. The biggest one seemed disturbed. At first his head was up, and then down. Howard wondered if the deer suspected his presence. It didn't really matter. Soon the largest one moved back into the woods, the others at his heels.

Howard put the scope on the nearby fields again. There, not far away, something moved. He watched, alertly. It was too dark for a chuck. Oh, man! Coming directly at him was a skunk! That varmint looked as if it was about to run right over him! Boy, he really was seeing an assortment of wildlife today. In a few minutes the

skunk had ambled rather close, and Howard began to wonder about the possibility of an undesirable head-on meeting.

He grasped a stick, then dropped it and picked up a stone. But if he threw the rock would the skunk attack? Ah! Howard realized he was being ludicrous. He tossed it. The rock struck just in front of the skunk. It paused, apparently curious, then wandered off.

Howard's thought turned back to chucks. He suddenly thought of how many could have appeared and disappeared while he was watching the deer and the skunk.

As he glassed the edges of the wheatfield where he'd previously bagged one woodchuck, another calmly strolled into sight in approxi-

mately the same spot. An easy shot even for a novice. Howard put the crosswires tightly behind the critter's shoulder and squeezed the trigger. Nothing happened. The safety was on. He snapped it off. The sound seemed loud in his ears. The chuck was running now. He fired. Dust flew behind his target. Howard worked the bolt, shot again. The chuck collapsed in a pile.

Howard retrieved this chuck also and headed back to the car. There was still time to hunt but he might as well quit while he was ahead. It had been a good afternoon, and he was well pleased with his showing. With some luck here and there he could add chuck hunting to his list of accomplishments with a gun.

Book Review . . .

Old Duck Hunters and Other Drivel

Back in the 1930s and '40s, Wisconsin writer Gordon MacQuarrie turned out a long series of stories based on the trials, tribulations, successes and failures of the members of the Old Duck Hunters Association, Inc. (*Inc. for Incurable!*). Quite a few fellows who grew up reading MacQuarrie now write outdoor columns of their own, copied after his. Nobody does it better than he did. In fact, nobody does it as well. There's been an empty place in the outdoor writing field since Mac died in 1956. This collection of 19 stories, assembled by Zack Taylor, is packed with humor that can be hilarious, but at the same time, on another level, he peels away the absurdities of much of our existence to let us see some of the truths of our lives—and not only in the outdoor field. Top reading for everyone. (Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 1967, 223 pp. \$5.95.)

Highway-Killed Animals

During 1967, in connection with his regular job as a highway foreman, Deputy Game Protector Lemuel Stiffler of Mahaffey helped remove the following vehicle-killed wildlife from the highway:

Deer, 112 (79 does, 33 bucks); rabbits, 94; opossums, 65; raccoons, 16; skunks, 22; grouse, 10; woodchucks, 9; porcupines, 3; gray foxes, 2; red foxes, 3; gray squirrels, 10; crow, 1. One dog and 8 cats also were removed.

Crowded Quarters

Winter rye has been found in laboratory tests to have 14,000,000,000 hairs all crammed into one cubic inch of soil. If laid end to end, the hairs would cover a distance of 6000 miles.

May Fly Memories

By Carsten Ahrens

Illustrations by Karin Ahrens DeStefano

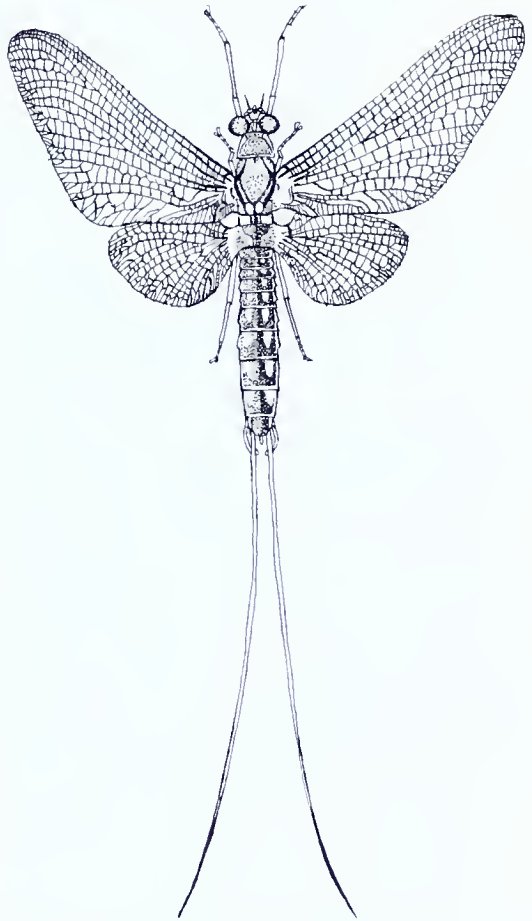
OF THE hundreds of thousands of insect species that bless and curse this old planet, few have an existence as fabulous or fatuous as the May flies. Scientists have given this order a most apt name in Ephemera. Surely, for the adults, the adjective ephemeral fits perfectly.

As a boy growing up along Lake Erie, I remember how we dreaded "May fly time." The creatures rose from the waters of the lake by the billions. They lived usually a day or two, a night or two, but no longer. During the day they rested everywhere. Grass, shrubs, trees, houses, cattle, horses . . . everything was simply covered with May flies. House painters took a vacation. So did fishermen. Fish were completely sated. Insect-eating birds and omnivorous ones, I remember especially the ringnecks, stuffed themselves with the soft-bodied creatures until the hairlike tails protruded through their gaping beaks and waved in the breezes.

Dance of the Drakes

At twilight the males would take to the air. As high up and as far in any direction as one might see, there were individuals beyond counting performing their nuptial dance. It consisted of two simple movements: a short fluttering upward and a coasting back again. Up—and back; up—and back. This went on until a female wandered into the swarm.

She was instantly seized by a male, held by his terminal claspers, and they disappeared from the formation of dancers. If a male didn't claim a mate, he continued to execute his dance until overcome by exhaustion. If he was successful in mating, death came a little sooner. The females of some species, after pairing, fall spread-eagle

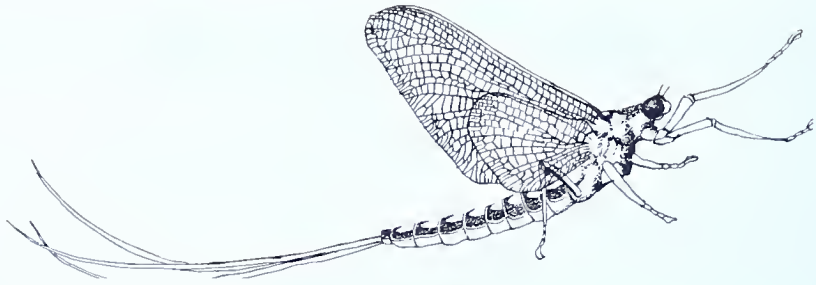


AFTER AN EXTREMELY short adult life, the May fly falls spread-eagle fashion into the water, never to fly again. In this position, one is acutely aware of their exquisitely veined wings.

fashion into the water; the fertilized eggs, soon freed from the fragile abdomen, sink to the bottom and the cycle begins once more. In other species, the female lives until she has deposited the eggs, often under water.

Life Down Below

The next time your boat is drifting lazily on some reedy lake, lean over and study the submerged life below. You'll first be aware of the variety of



MAY FLIES are seldom seen in pinned collections, as the slightest jar shatters their dried structures.

water plants. Then you'll begin to see various damselfly and dragonfly naiads, beetle larvae and, sooner or later, May fly nymphs. They'll get your attention for parts of their anatomy are always in action. At the anterior are two long antennae which are constantly in motion, up and down, striking the water before them. The length of these feelers is an oddity because the adult has antennae so short that one is apt to overlook them entirely. Behind are three plummy projections, often banded. But the most noticeable organs are the quivering gills, constantly seeking oxygen. Each abdominal segment has a pair. Their movement makes for conspicuousness and so they become food for water insects, fish, frogs, turtles and wading birds. For their part, May flies are herbivorous, content with one-celled plants like algae and diatoms or the decaying parts of higher plants.

Some species of May flies, and scientists have described hundreds, live in the water for a few months; others, for several years. But regardless of species all except a day or two of its entire life is aquatic.

Life Above Water

Every once in awhile the growing nymph finds it is becoming too large for its old skin or exoskeleton, so the case slits down the back and the insect, soft and vulnerable, escapes from the old shell. The new, elastic suit permits growth until it hardens. This occurs about 20 times.

Finally, the day comes when the

skin opens dorsally for the next to last time, and an aerial insect crawls through. It must leave the old watery world. At this time the gills are replaced by spiracles — openings for breathing on either side of the thorax and abdomen; the antennae have shortened; sex parts have developed, including clasping organs in the male; and wings have been added.

The rather triangular wings are held together and above the abdomen when the insect is at rest. They are intricately veined and occasionally spotted. The hind wings are small; in some species they are lacking.

Before leaving the water, the creature takes its final meal. The mouthparts have become vestigial, and the food canal, now that the insect will no longer eat, fills with air to aid the creature in flight. Once it makes it safely into the world above water, it undergoes one final molt . . . the cast-off skins cling like May fly ghosts everywhere.

Meek Inherit the Earth—Briefly

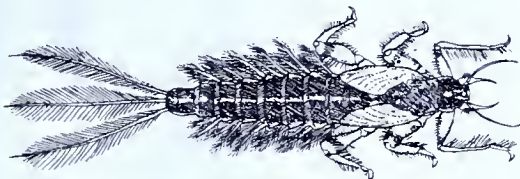
For my family, the four-mile survey ride to church was always an ordeal during May fly time. The soft, unresisting insects sitting on roadside vegetation would be disturbed by our passing and swarm about us. Mother and Aunty would sit bolt upright lest they lean against and mash the insects on their Sunday best. I would run a hand down my coat sleeve and crush the helpless creatures by the score. I remember Mother: "If only they weren't so spineless. . . . If they would

only sting or bite, or even hum or buzz." They were mute, harmless, ubiquitous; they seemed to be waiting to be liquidated!

For about two weeks—the season was shorter if the weather remained

would be ready for broiling the meat.

I built a fire all right—three of them—but when the picnickers arrived, they retreated, bewildered and hungry. For as soon as the flames soared above the kindling, tens of thousands of May



SOME MAY FLY nymphs burrow in underwater mud, some sprawl on the bottom, others cling to submerged plants.



FEATHERY GILLS on the May fly nymph's abdomen often dooms the insect by attracting predators.

warm—the invasion from the lake continued. Angling stopped. A heavy shower would rain them down to bury a crop like lettuce. The insects would crawl down between the leaves, die, and decay there. Bathing beaches were deserted, for the waters became thick with their countless remains. In time, the waves would deposit them in evil smelling, slowly desiccating windrows up and down the beaches.

Unusual Fire Extinguisher

I remember an odd experience with May flies that even now, after 40 years, seems eerie. We had planned a steak roast down on a sand pit that extended into the lake, forgetting that May fly time was upon us. I agreed to go on ahead to get a fire going so that when the group arrived the coals

flies rose from everywhere, were attracted to the blaze, blundered into it, and with a great hissing, slowly but surely extinguished it. We were left in an evil-smelling darkness.

At times, during May fly season, the street lights in a nearby town used to attract such swarms of the insects that they hung in swaying festoons, clinging to each other. Below each lamp were writhing mounds of them, and the pavements in the vicinity would be slippery with their crushed bodies. It was inviting trouble suddenly to apply one's brakes while driving.

The passing years have found May flies decreasing in numbers. It has been suggested that Lake Erie has been polluted to an extent that even this meek, uncomplaining insect can no longer take it. . . .

Gunners Not Free-Loaders

"The entire spectrum of natural resources benefits from the hunting permit monies. Wildlife management enhances watershed values, increases the fertility of the land, prevents erosion, makes the landscape more attractive, and provides for other benefits to the land and water resources. During the past sixty years, the economic contribution of the hunter to the conservation movement has been immeasurable."—Alan S. Krug, 1965.



Never Can Tell!

By Les Wood

Retired District Game Protector

FOR ONE who lives close to the animals and birds there are always new surprises. You never can tell what they'll do next. You might, for instance, watch rabbits or squirrels until you think they have shown you all their tricks—but watch out! That's just when you might get the surprise of your life.

Once we were restocking rabbits and had just liberated some in a brier patch near where an old house had been torn down. Nothing was left of it but the sills and floor joists. One rabbit ran into the cellar and my helper went down to drive him back out. Instead of going back up the hatchway, the rabbit hopped slowly over to middle of the cellar, sat down momentarily, then snapped his hind legs like a big grasshopper and sailed straight up between two of the joists! It landed on the top edge of one on the way down and hopped on across the other joists and disappeared into the brier patch. I went down and stood where he took off. I am six feet tall and my hat lacked two or three inches of touching the bottom of the two-by-ten timber.

Now, I don't believe a rabbit can make a perfectly controlled vertical jump of more than seven feet without some practice. I waited patiently a long time for some confirmation of this theory and then, not surprisingly, a farmer friend of mine told of watching some rabbits playing on a bright moonlit winter night on the hard-crusted snow. Suddenly, one of them bounded straight up five or six feet to a horizontal limb of an apple tree, sat there a moment as if it were an everyday occurrence, then jumped back down and resumed his play. Yes, they sure do practice. Trouble is, we

don't know all that goes on when we're not looking.

Another time I was walking a back country road on a dark night when a terrific battle broke out in a field above the road. From the sound of the melee one would think it could be nothing less than a couple of bears settling a long-standing feud. The combatants roared and snarled and tumbled down across the road behind me and into the field below. The nature of my errand was such that I hesitated to use a light, but when the uproar subsided a bit my curiosity got the better of me and I turned on my light and aimed it where the fight had ended. And there coming right toward me in the bright beam of light was the biggest, fattest, tireddest raccoon I ever saw. His tongue was hanging out and he was panting so hard I could hear him almost as soon as I could see him. He came up the path of light right to my feet, sniffed all around my shoes, stood up on his hind legs and smelled me all over as high as he could reach and then apparently satisfied that I was harmless went panting back toward his home woods on the hill.

Caterwauling Cat

While we are talking of unusual animal acts, here's what was witnessed one night by one of my deputies. He and a friend were sitting in a boat fishing for bullheads. They were anchored a few yards from shore on a pond the beavers had made by damming up a mountaintop swamp. A man and his teen-age son were fishing from shore nearby, and they had a lantern sitting on a log a few feet away. Abruptly the stillness of the night was shattered by a frightful



THOUGH RELEASED in a remote area, the "tame" bear got into trouble which a farm wife settled with a Winchester.

yowling and caterwauling from the upper end of the pond. It was slowly coming nearer. Maybe those panther stories from over in that area were true after all! Then there was a big splash as the two fishermen jumped into the pond and a big bobcat stalked unconcernedly into the circle of light, jumped up on the log beside the lighted lantern, sat down and gave out with another of those unearthly yells.

Normally, a bobcat is a rather shy and quiet animal. Why this one should be so loud and bold is anyone's guess. He became locally notorious for his howling even in the daytime. As soon as tracking snow came, another of my deputies went after him with dogs and succeeded in bagging him. I measured him myself and he was 41 inches long when held up by his hind legs. As I said before, you never know what they'll do next.

When one picks up fawns or cubs or any other wild animal, it usually means that the animal will sooner or later meet an untimely death. Animal mothers train their offspring to survive under all normal conditions. It is a very intensive and effective training and when man interferes with it serious trouble and often death is the final result.

Back in the days of the Civilian Conservation Corps, the boys at one of the camps captured and tamed a cub bear. For a time he was real cute and quite a novelty, but wild things grow up fast. And there's always someone who likes to abuse and mistreat animals. At any rate, the bear left home and became a regular hobo, eventually showing up at a summer resort where his depredations upset the peace and tranquility of the community so dramatically they sent for me to come and get him. I lured him into the trunk of my car with a cup of sugar and took him far back into the wildest country I knew of.

Next day in a remote farming community a housewife went outside to call the men to dinner. When she returned there was this bear right up on the table gobbling up the dinner. She was a wee little lady, 70 years old, but she had just prepared that dinner and didn't intend to stand idly by and see it destroyed. She just reached over in the corner for the Winchester and clobbered him right in his tracks. He barely made it out the door where I found him, when I arrived a short time later, a very dead bear.

Our Indian guide used to say, "Never can tell 'bout bears." (Or wolves or whatever he was telling about at the time.) It is so true I have adopted it as a sort of slogan.

Never can tell 'bout coons, or bobcats or even the li'l ol' cottontail.

Undecided

Although turtles live in water, they deposit their eggs in sand away from it.



The Crow

By Wilbert Nathan Savage

CORVUS BRACHYRHYNCHOS—the common crow—has been making a national nuisance of himself for a long time. This clever bird was a continental resident when the white man first arrived, and even as Pennsylvania's early day boundaries were being marked, he was busy pulling up Indian corn from the Monongahela to the Delaware.

But the crow was soon to learn that pioneer countryfolk of Penn's Woods were in no mood to put up with his nonsense. As early as 1700 one could

collect a bounty of three pence per crow, and the offer stood for many years. In 1754, farmers petitioned the General Assembly to pass a law requiring every settler to kill a certain number of crows, for which he would receive compensation. Well into the 1800s there was a small bounty on the ebony bird's scalp, in accordance with a law enacted in 1811.

But all schemes against the crow drew disapproval from the red man, for he honored the widespread belief that a crow brought the first grain of



corn to Indians from the great god, Kautantauvit. Settlers would have none of the legend, however, and the caw-caw ruffians were in for a long term of resolute hostility.

Even to this day, most farmers and sportsmen are more interested in ways to put the quietus on the crow than they are in amusing accounts of his popularity as a thieving television or movie character. Or a bold personality who made it big in American folklore. Henry Ward Beecher probably stirred the greatest surge of ego in old *Corvus* when he wrote: "If men were birds, few would be smart enough to be crows."

Sweeping prejudice aside for a moment, perhaps a little conceit on the part of the crow is justified, for who can deny that his firm lease on life is directly linked to his uncanny methods of upsetting the schedules of those plotting against him. Of course, man has been able to trick the sly bird on many occasions, but from each fracas he seems to have emerged even wiser as well as smugly secure in the population charts. All this in spite of the fact that he has been bombed, shot, poisoned, trapped, sought by natural wild enemies, mocked by scarecrows, insulted by repellants, and decoyed by stuffed owls and traitorous tame kin-folk.

Giving him all equitable dues, how-

ever, the crow still ends up with bad marks on his report card. It certainly isn't likely that any of us would want to be responsible for destruction of the crow on earth, yet his conduct is such that open season the year round seems a befitting challenge to his vexing habits.

Very often it is unnecessary to go beyond your front porch in order to get a sure-fire indictment against the inhabitants of Crowville. For instance, watch that small band of crows on the far side of the woodlot. Plainly visible is the fact that they are systematically searching the trees for songbird nests, and missing no opportunity to gobble up both eggs and young. You get the 12-gauge, load up, and ease out past the grape arbor and the shielding blue spruces. You plainly hear the dark marauders bickering over each hapless new discovery. Another 30 steps and you'll be within range. But with the outburst of three sharp caws the flock scoots off to yonder hill. The guard saw you in plenty of time. Lesson No. One in crow hunting is that sentinels always occupy the very best vantage points!

Eats Anything

In this illustrative incident you glimpsed only one facet of the crow's appetite and his method of satisfying it. He'll eat just about anything from corn to carrion; from whole acorns to swampland crayfish and lizards; from moles to cicadas. Worst of all he delights in the act of raiding game bird nests, and seems to possess mysterious knowledge of the exact time when parent game birds have left the nest to feed. If there are no eggs to pierce or drain, he isn't above making a meal of nest-occupying young. Crows can take whole eggs to their young and break them at the nest. According to one veteran hunter-observer:

"The crow's bill can even be manipulated to accommodate a duck's egg, and if it is to be transported to the nest, only enough pressure is applied

to securely hold the egg. Many crows are said to have a life span of 12 to 17 years, and are plunderers all their lives. . . ."

Charting a course of action to make the crow pay dearly for his pilfering ways is one thing; carrying it out is another. Few people dispute the claim that crows are the world's smartest birds. He nests, for the most part, where his ancestors nested. He has lost nothing in the way of skill in meeting difficulties, nor in boldness, nor cunning, nor adaptability. Some old-timers even claim to this day that certain crows are super smart or "college crows." Although the belief may be diminishing it was many times expressed in outdoor magazines published 60 or 70 years ago. It still holds to the degree that some of the very best crow hunters will occasionally grumble about remote pockets of crows being extremely—almost eerily—hard to cope with.

The novice crow hunter may swear that *all* crows are of the "college" variety. How strange that the bird will rest and feed within sight, but not within range! A farm boy and his dog stroll by a sentinel crow's outpost. The bird gurgles a note of contentment and doesn't move a feather. If you are unarmed he may even allow you to walk within a stone's throw of his perch. But show a firearm—or even an umbrella or cane!—and you can forget your plans for close approach. Why? Well, you can bet the crow has the answer.

Hand-Picked Aides

Any probing look-see into the black rascal's age-old practices will reveal such things as the fact that a shrewd old leader crow may have aides hand-picked for their loyalty and wisdom. There is no such thing as being able to get a goof-off permit in Crowville! Organized vigilance doesn't just happen, and if an upstart tries to take over management of a flock, he is given a prompt lesson in discipline.

Specially selected and assigned scout crows are sent out like real bandits to locate victims that can conveniently be raided, or feeding grounds that appear best stocked and danger free.

Although it is often claimed that crows can communicate with each other from great distances without costly errors entering into the exchange, a group of Pennsylvania "test crows" did encounter communication problems some years ago when three scientists at Penn State subjected *Corvus* to some call studies. It was learned that crow chatter from a French crow brought almost no response from Pennsylvania crows. Even when the French crow uttered native assembly and alarm calls, Pennsylvania crows showed little interest. Looking puzzled, they seemed to be thinking: "What's that foreign bum trying to tell us?"

It seems that crows from different

CROW SHOOTING is one of the favorite pastimes for gunners in all seasons of the year.



countries have worked out their own linguistic signals!

Sometime in March crows begin to pair off and the nesting season begins. Both male and female take part in fashioning a rather coarse nest in which are deposited three to five blue-green eggs that show random splashes of muddy brown. Nesting sites are carefully selected, remote, high, inconspicuous. During incubation, the male bird often feeds his mate, and when the young have hatched both parents are hard pressed to tote in enough grub for their ravenous offspring.

Sometimes Silent

Throughout most of the nesting period crows remain uncommonly silent, congregate very little, and at this time are difficult to call. At mating time the male crow may utter a *crr-aa-aa-aw* sound as he walks along with feathers sticking up in ruffled disarray. After the birds have paired off they are more apt to fly into a rage at sight of an owl.

The young crow starts to receive lessons in obedience almost as soon as he leaves the egg. He must learn all calls and what they mean. The young are mysteriously difficult to call, just as if they've been told to sit tight, and if they do become talkative at the wrong time, three sharp notes of warning from either of the old birds will quickly hush them. They are taught how to space their calls, and any outpouring of easy-to-trace disconsolate cries from the young usually comes only when they are spooked by some real or suspected difficulty.

Roosting habits of the crow are most interesting, even prophetic of weather-to-come. If a storm is brewing the birds remain longer in the feeding zones and are late coming in to roost, thus filling up against chances of a bad day to follow. But if the next day is to be fair, the flock generally begins straggling homeward early in the afternoon.

Crows do not roost in the same place every night, as many a watchful but disappointed hunter can testify. A single group of crows may have a dozen different roosting spots and will carefully avoid a certain roost for days or weeks. Then, for no apparent reason, they'll arrive there in full force.

During periods of extreme cold crows may seek roosting places in low-altitude regions. Although the bird isn't dominated by the seasons and isn't much of a migrator, sub-zero temperatures can drive him down off the high, bleak ridges. But let the weather moderate and he'll quickly move to higher ground and the taller trees that afford better lookout positions.

Approaching any roosting location the incoming flight of crows is cautious, deliberate, flying somewhat lower than the outgoing morning flight. Mature young birds may travel as much as 50 miles to feed, but 15 to 20 miles is a more common distance. Older birds, unable to make exhausting flights, are forced to seek nourishment near the roosting area.

A collection of published pointers on how to hunt the crow would result in a ponderous book that perhaps no man could lift. But in the end only you can decide whether to use a call or decoys, or whether to give the bird a better-than-even break and stick strictly to stalking. The latter will test your patience—and stealth!

Singles Difficult

A single crow is perhaps the most difficult of all birds to call or approach. But in flocks you have a chance to maneuver them into a mood of excitement—and therein lies the weakness of crafty *Corvus*. The sight of an owl often infuriates him; the plaintive call of a young crow in distress excites him; comrades in visible difficulty stir him to heroic boldness and even foolhardiness.

One veteran nemesis of the crow advises beginning hunters to listen to



BLASTING black bandits is tough, interesting shooting in itself—and good training for small game season.

crows very attentively under different circumstances and practice duplication of the “conversations.” The birds have a lot of time-tested stop and go signals and they generally know a dead giveaway when they hear one.

Sometimes, no matter how skillfully you call, crows will ignore you. Why? Only the crow knows. For at other times the very same calling technique may bring them plunging recklessly. In any case, your call will be more effective on still days when

you may pick up prospects from points as far as half a mile away. Crows are accurate in tracing call locations. If they don't hurry in to greet you, don't be impatient and think they're in need of hearing aids.

Effective blinds may feature anything from corn shocks to green branches tied into desired shape to allow firing outlet. Even a canopy of leafy wild grapevines can serve as a satisfactory blind. If the day is windy, expect the birds to come in high—a situation that may be remedied by picking a hilltop location where the black targets are apt to clear the summit at low altitude.

Corvus Sixth?

Some years ago a wildlife survey placed crows in the No. Six spot as game-destroying vermin. But the brazen rascalion wasn't bothered by the rating, nor by the fact that in all birddom he has no friends, large or small. Perhaps this feathered intellectual can afford to be cocky and nonchalant, for residents of Crowville have remarkably good health records. Even in the great flocks of the Midwest, maladies among crows are few. With brains, health, and orientation genius, he's a symbol of self-reliance.

Adding to the crow's right to a high opinion of himself is the claim by some ornithologists that he is the most highly evolved of all perching birds. Carrying the factual flattery still further, some believe that he is capable of reaching an evolutionary plane of even greater intelligence. His feathers may fall slightly, however, when he learns that scientific men recently have called him resourceful in one breath, a pirate in the next. But whether praised or cursed, flattered or condemned, the crow can boast that his species has been cawing around the countryside for some 60,000,000 years. Could this be a jolting hint that he plans to be around to challenge space-traveling mankind for centuries to come? *Corvus* lustily caws “yes.”





HAWKS

across
Pennsylvania

By Ron Jenkins

Sparrow Hawk

(*Falco sparverius*)

OUR BEST KNOWN hawk and a true falcon, the beautiful little bird is often mistaken for a robin or blackbird, perched on his favorite telephone wire or tree. Closer observation will identify the sparrow hawk; and then one can realize their real abundance.

In spite of man's encroachment on the out-of-doors, sparrow hawks continue to thrive at the very edge of cities and shopping centers. Their food consists mainly of mice and large insects. Beetles and grasshoppers are favorite foods, and sparrow hawks may be seen hopping about grass and stubble fields harvesting these.

A nesting pair, while raising a brood of perhaps five to seven young, will aid the farmer considerably with their daily toll of mice and insects, of which a constant supply is needed for those ever-hungry mouths.

Sparrow hawks are hole nesters, and will occupy old flicker nests, barn foundations, or any place where there is a suitable nesting cavity. One such bird, which was observed for four seasons, nested under the press box of a high school football stadium. The structure is all metal with just enough of an opening to admit the adults with wings outspread. It was a marvel to watch them fly unchecked into this small space, and wonder how it was possible without crashing headlong into the inside walls.

During the first year of observation, these parents successfully raised six

hawks and, in succeeding years, seven, four, three and five, respectively. These were fully fledged sparrow hawks, ready to fly with their parents. Their brood size might be unusual, but in such a protected nest site, and with an available food supply from the adjoining farmlands, the parent birds did only what comes naturally.

After the fourth year of observation, pigeons moved into the stadium in such numbers that the sparrow hawks were forced out. They moved only 200 yards to a tree hollow. However, new construction there will force them even farther toward the nearby mountains.

For both the novice and the experienced bird watcher, this little falcon is magnificent. In color, temperament and benefits to us all, he is unsurpassed as a wildlife friend who is willing to enrich our lives by simply allowing us to approach him, as he has.

Only robin-size, the sparrow hawk is able to fly like a guided missile when the occasion demands. He habitually hunts on rapidly beating wings, hovering over a likely looking mouse run while scanning the ground below for the slightest movement which might betray the presence of a mouse or other prey.

Highly beneficial to farmers, sparrow hawks should be bypassed by gunners. Watch for these little beauties the next time you take a hike or a Sunday drive in the country.



GAME LAND MANAGER Al Bachman discusses bird dogs with Triple Trophy winner **Carroll Bennett of Lebanon.**



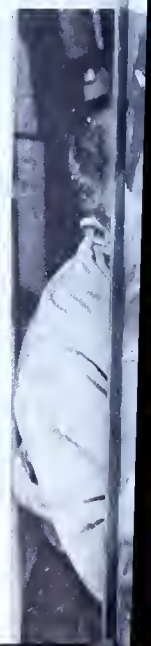
AWAITING START of taping hunter safety coordinator; and for the Game Commission.



DON OLYNYK directs taping of show, above, while **GAME NEWS** editor **Bob Bell**, below, talks about scopes for hunting rifles.

The P

SINCE last September, the have been producing a one-hour *Outdoors*. It is seen during Thursday at 9:30 p.m. over V Saturday at 8:00 p.m. over H It may soon be seen in other many employees of the Gam appear to discuss their areas





neffer, biologist; John Behel,
own, chief of law enforcement

on TV

nia Game Commission has
ion program, *Pennsylvania*
el week of each month, on
hannel 33, Hershey, and on
hannel 3, State College.
. Hosted by Nick Leitner,
sn as well as local hunters
o interest.

JOHN BEHEL and Roy
Trexler, I&E chief, show
Boone and Crockett
way of measuring antlers.



PAUL FAILOR, above, wildlife conserva-
tion specialist, discusses fox trapping.
Below, host Nick Leitner and biologist
Stan Forbes review the Game Commis-
sion's deer management program.



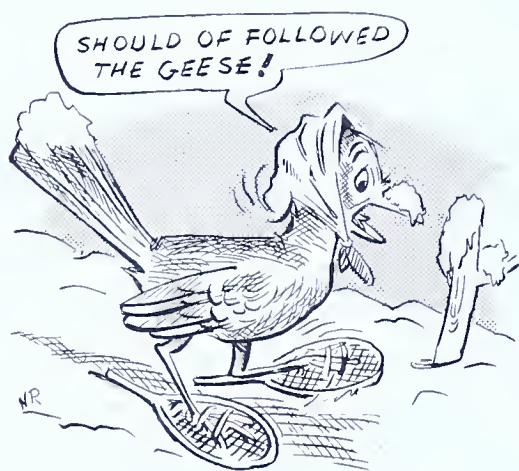


FIELD NOTES



Outstanding Group

ERIE COUNTY — A number of years ago a conservation club was organized in Union City High School. To make money, each year the boys trap rabbits in town. The trapper gets 25 cents per rabbit and 50 cents goes into the club fund. With this money the boys built an indoor rifle range, purchased five 22-caliber target rifles, and each year send a boy to summer conservation school at Penn State. They also sponsor a hunter safety course for all seventh grade boys by furnishing rifles, cartridges, etc., for range instruction. It is a real pleasure to work with this group.—District Game Protector E. Simpson, Union City.



This Is South?

FOREST COUNTY—On January 2, while checking a beaver dam in the Neiltown area, Deputy Gorman and I saw a robin. This was an unusual sight, since there was about 10 inches of snow at the time. I'll bet he was looking for a good place to get his compass fixed, as his was apparently on the blink.—District Game Protector C. E. Toombs, Jr., Tionesta.

The Hard Way

LYCOMING COUNTY — Dennis Berchet, Little Pine State Park Superintendent, has hunted for turkeys since 1962, but failed to bag one during that time. Recently, while driving between Waterville and Little Pine Dam, Mr. Berchet saw about 10 turkeys crossing the road and one of them, a 14-lb. gobbler, flew into the windshield of his car and killed itself.—District Game Protector M. Evancho, Jersey Shore.

Benefits for All

I recently heard about a hunter who was out for coon one night and lost one of his dogs. Several days later a farmer called the hunter and said he had found the dog and that it could be picked up at his residence. When he went for the dog, the hunter offered a reward, but this was refused. To show his appreciation, the sportsman obtained a 5-year subscription to GAME NEWS for the farmer. This is what I call outstanding sportsman-farmer relations.—CIA F. H. Servey, Ligonier.

Altogether, Now . . .

CENTRE COUNTY — As a large gathering of people at the Black Moshannon Airport was admiring the foliage and watching the planes take off, two turkey hens decided they would get into the act and paraded their twenty-five young across the runway. As the people were buzzing with excitement, an old mother bear decided she too would take part and paraded her three cubs across the same runway.—District Game Protector M. Grabany, Philipsburg.



"Houdini" Hummel

SNYDER COUNTY — A lady in Selinsgrove requested removal of a skunk that appeared in her backyard each evening. I baited a wooden box trap and placed it near the trash can. Soon I received a call that the skunk was in the trap. I told the lady to cover the trap with an old rug so the skunk would remain calm and not cause a big stink. I then called Deputy Ray Hummel to pick up the trap. Holding the covered trap at arm's length, Ray gently placed it in the back of his Jeep and slowly drove to the country. There, he carefully removed the cover and opened the trap —and out popped two starlings! Ray feels sure he somehow performed a feat of magic, but he can't remember the magic words. P.S. The skunk has not been seen in the yard since.—District Game Protector K. W. Dale, Middleburg.

Rip Van Turtle?

SOMERSET COUNTY — One day back in 1933, Grant Lancaster of Addison caught a land turtle and carved his initials and the date on the shell. Much to his surprise, his nephew Dwight Tissue found this same turtle, initials and date still very legible, this past fall. It was found on the same hill where Mr. Lancaster left it 34 years ago.—District Game Protector D. C. Snyder, Meyersdale.

Starting Young

UNION COUNTY—Recently I gave a program for second and third grade students where I used quite a number of mounted specimens of birds and animals. I was pleasantly surprised at the knowledge of wildlife displayed by the children and the questions asked. They were real enthusiastic. The interest and zeal of their teachers for wildlife was certainly evident in their pupils.—District Game Protector J. S. Shuler, Lewisburg.

Trials of a Goose Hunter

ERIE COUNTY—Ronald Peck was hunting waterfowl this past season in Green Township. While hiding in the reeds two Canada geese came in and landed just out of shotgun range. He decided he would stalk his prey. He waded along the water's edge, not realizing that near the newly constructed dam the ground tapered quickly into about eight feet of water.



Just as he was ready to shoot he slipped on the clay bottom, lost his footing and fell, well over his waders. Soaking wet, he struggled erect—and the geese were still there. He leveled his trusty double, the two birds took off with a loud roar before he could shoot. Peck, needless to say, clumped away muttering to himself.—District Game Protector R. L. Sutherland, Erie.

Whoo-Woo-Woo-Woo!

BUTLER COUNTY—Many strange requests come the way of a Game Protector. Most recent was a phone call in which the caller identified himself, then asked if I would do my "Indian dance" for his troop of Boy Scouts. He said he'd heard I had an Indian dance routine that I gave on various occasions, and that they would gladly pay \$20 for my performance. An Indian dance being somewhat out of the line of training we have received, I declined his offer. Not without, however, considering that for that amount I might try putting a hot coal in my shoe!—District Game Protector Ned Weston, Boyers.

You Guys Can Have Your Dogs

FRANKLIN COUNTY—While assisting in trout stocking along Falling Springs Creek, we made an interesting observation. John Lehman, who lives along the creek, saw the truck and started to walk over. As he came toward us a large ring-necked rooster came running after him and followed him almost to where we were standing. John told me the pheasant lives in back of his house and follows him wherever he goes while working around his house.—District Game Protector J. D. Most, Chambersburg.

Power of Suggestion

BUTLER COUNTY—This may just be a coincidence, but ever since "The Birds" appeared on TV, the poor crow has been taking a beating. In the last six weeks, I have received calls from seven different locations about crows attacking children, dogs, or cats. For my own information, I checked with the local hospital, and to their knowledge no one had been treated recently for wounds received from a crow. I feel sorry for any Game Protector who has sea gulls in his district.—District Game Protector J. Swigart, Butler.

Problem Owners

LUZERNE COUNTY—Every year, starting about this time and lasting until after the fawning season, many deer are killed by dogs. Often this occurs in the same area year after year, indicating that the same dogs are probably responsible for this vicious act. Every year we appeal, with little success, to dog owners to keep their pets tied or penned. Strangely, even dogs that will not chase any other game will chase and kill deer, and small dogs are as guilty as large ones. Maybe if these dog owners ever saw a deer that has had its tail pulled off and is being eaten alive, they would give more thought to their free-running pets. Please, for the sake of your wildlife, keep your dogs tied. — District Game Protector C. E. Burkholder, Wilkes-Barre.



Where They Are

CAMBRIA AND INDIANA COUNTIES—While I feel that we have no deer problem concerning the available food supply in either Cambria or Indiana Counties, it is amazing just how soon the deer locate and utilize the cuttings we make. They move in and eat the newly cut browse almost immediately. In fact, it is at these cutting locations on the State Game Lands that we see most of our deer.—Land Manager C. L. Ruth, Indiana.

Old Skinny

BRADFORD COUNTY — While checking licenses of a party of deer hunters I became aware that I was talking with possibly the oldest hunter in Pennsylvania. His age was listed as 188. I also noted that he weighed 38 lbs. I mentioned that I thought he looked in good condition for his age, but that he appeared to have put on a little weight since he purchased his license. My remarks produced some puzzled looks from the hunter and his friends. Finally, I revealed the information contained on his license and we all had a laugh, thanks to his license issuing agent who had entered the right numbers in the wrong places. —District Game Protector R. W. Donahoe, Troy.

On Their Own

TIOGA COUNTY—During the winter months when our turkey feeders are filled with corn I make it a practice to see if the turkeys are using them. This year, very few feeders were used by turkeys. I believe this is due to the abundance of natural food that was available. Many local people were concerned about the turkey population because no one was sighting these birds throughout the winter. However, this past week I have had numerous reports of large flocks of turkeys being seen in many different areas. The spring gobbler season should prove productive. — District Game Protector F. A. Bernstein, Knoxville.

Voice of the Turtle

MONTOUR COUNTY—An unusual aspect of this past winter has been the large number of doves which has wintered over locally. Unharvested cornfields and long periods without snow cover provided these and other game birds with bountiful conditions in this district. — District Game Protector H. W. Bower, Jr., Danville.

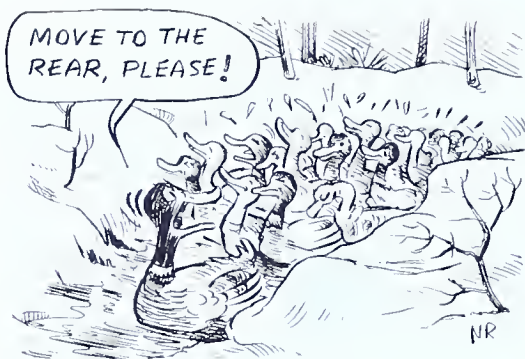


Aw, Come On, Fellows

VENANGO COUNTY — During a sportsmen's club meeting this past fall two items were very seriously discussed by the members. Contacted about the items, all I could offer was, "No comment." One was the possibility of the Game Commission crossing wild turkeys with an ostrich to produce a larger turkey. The other possibility was a special deer season in Pennsylvania where spears only could be used.—District Game Protector L. Yocum, Oil City.

Tussey Mountain 4-H Club

CENTRE COUNTY — Recently a new club has been formed in the State College area, The Tussey Mountain 4-H Wildlife Club. This group of youngsters has greatly impressed local conservationists and sportsmen with their vigor in planning and carrying out various programs. Building feeders, trout stocking, habitat improvement and stream improvement work are some of the projects they are working on and plan to do in the near future. If this isn't enough, this organization is meeting with local sportsmen's clubs to see how they can better serve the community. This is one "gang" anyone can be proud to be a member of. Keep up the good work, kids.—District Game Protector J. L. Wiker, Pennsylvania Furnace.



They Just Go Up and Down

BEDFORD COUNTY—On a one-mile stretch of Yellow Creek where it is only about a foot wide, at least 10 pairs of mallards wintered.—District Game Protector S. E. Lockerman, Loysburg.

Just Try Looking

JEFFERSON COUNTY — While filling turkey feeders in the Jenkins Run section of State Game Lands 54, Deputies Swanson and Silvis talked with a resident of that area who was under the impression that too many deer were killed this past season and that there weren't any left. Shortly after, 14 whitetails were sighted, and before the feeding mission was completed the count stood at 60, so it seems that some breeding stock still remains. — District Game Protector G. W. Miller, Sigel.

Sharpshooter

YORK COUNTY — Deputy Game Protector John W. Kramer, Sr., of York, recently won the rifle matches conducted by the local chapter of the Izaak Walton League of America. The shoot consisted of six benchrest matches at 100 yards. Deputy Kramer shot a 293 out of a possible 300, using a 6 mm. rifle equipped with a 6-power scope. In the final match, he shot a perfect score of 50, with 5Xs. An appropriate trophy is forthcoming at a later date. — District Game Protector G. J. Martin, York.

Just a Promotion Scheme?

VENANGO COUNTY—In February I was notified by the city police that a deer had entered a furniture store in Franklin. It had done considerable damage and we were unable to drive it from the store, so I had to shoot it to prevent more damage. The manager was heard to say that he would be having a "deer damage" sale instead of the usual "annual" or "fire" sale, and would have the damaged furniture with deer tracks and marks on top of them for proof. — District Game Protector C. W. Decker, Franklin.

Weimer Is Winner

SOMERSET COUNTY — Deputy James E. Weimer of Somerset has won the Somerset County Hunter Safety Instructor's Award for 1967. Twenty-three classes with 933 students were certified in Somerset County last year by 17 instructors. Mr. Weimer was credited with 13 classes having an enrollment of 338. The 1967 trophy was awarded by the Tire Hill Sportsmen's Association of Tire Hill. This award will be an annual affair by the Somerset County Sportsmen's League.—District Game Protector J. Burns, Central City.

Beats Blueberry Pie

SUSQUEHANNA COUNTY — Seasons come and go and are taken for granted by most of us, but the beaver trapping season is something special in the mind of Paul Kulik of Forest City. Uncle Sam called and this year's will be Paul's last for at least four years. Before his departure, I had the pleasure of sealing five beautiful blanket beavers he trapped in Susquehanna County. No matter how far away he may be soon, I'm sure he will often think of his trap line.—District Game Protector N. J. Forche, Montrose.



CONSERVATION NEWS



144,415 Deer Taken in State

PENNSYLVANIA deer hunters made a shambles of most records during the 1967 season, as they reported harvesting 144,415 whitetails, according to official figures released by Game Commission Research Division Chief Harvey A. Roberts.

All existing records were smashed by buck hunters, who reported tagging 78,268 deer. The old record, 65,150, was established just two years ago.

Roberts said the total deer take of 144,415 is the third highest on record, eclipsed only by the 1940 figure of 186,575, harvested in a two-week season open on either sex (except spike bucks), and the 1938 tally of 171,662 taken in a six-day season for antlerless deer only.

The 66,147 antlerless deer tagged during the past year make up the fifth highest total ever recorded in this category.

Pennsylvania's 1967 buck harvest was almost 20,000 higher than the previous year's 58,722, while the antlerless deer mark was some 6000 above that of 1966.

Potter County, traditionally the leading deer producer, was way out in front of all other counties in 1967. The 4899 bucks taken last fall in Potter constitute the all-time antlered deer record for a single county. Following Potter, the leading buck producing counties were Clearfield, 3455; Centre, 2950; Elk, 2832; and Lycoming, 2772.

Hunters reported tagging 3271 antlerless deer in Potter, also high for the state. Leading counties in production of antlerless deer, after Potter, were

Centre, 2683; Warren, 2580; Venango, 2307; and Huntingdon, 2010.

In total harvest, Potter was tops with 8170, Centre County was second with 5633, and Clearfield was third with 5353. Other counties which produced over 4000 deer were Bradford, Clinton, Elk, Huntingdon, Lycoming, McKean, Tioga, Venango and Warren.

With the 1967 pre-hunting season herd at or above the maximum carrying capacity of the range, the reported harvest of 144,415 animals was in keeping with the Commission's management objectives. A harvest of this magnitude will help to bring the deer population more in line with existing food supplies and keep it out of direct conflict with agricultural and timber production. While subsequent harvests will probably not attain this level, Pennsylvania will continue to provide top-notch deer hunting.

ROBERT GARMAN, Chambersburg, bagged this beautiful 10-point buck during the past season. The 148-lb. deer had a 19¾" antler spread.



25 Student Officers Selected by Game Commission

THE Pennsylvania Game Commission announced the names of 25 men selected for the 13th Student Officer Class.

Glenn L. Bowers, executive director, said the 25 were chosen from 217 applicants after a series of written, oral and physical examinations. They began classes on March 25.

The group will undergo 11 months of intensive training at the Ross Leffler School of Conservation near Brockway in Jefferson County. Included in the school program are many subjects, some of which are wildlife manage-

ment, public relations, game and fish laws, legal procedure, animal and bird identification, land management practices, etc. In addition to the academic training, students are assigned to work with field personnel at appropriate times in their training period.

Following graduation next year, the trainees will be assigned to game protector positions throughout the state.

This will be the thirteenth class of trainees at the school, considered the foremost of its kind in the nation, since its origin in 1936.

Members of the new class follow:

Name	Town	County
Dennis A. Bernhardt	Orwin	Schuylkill
William A. Bower	Steelton	Dauphin
LeRoy L. Everett	Lehighton	Carbon
James P. Filkosky	Parkesburg	Chester
Edward N. Gallew	Canton	Bradford
George E. Gibson	St. Marys	Elk
L. L. Harshbarger	Mattawana	Mifflin
Daniel W. Jenkins	Pittsburgh	Allegheny
James M. Kazakavage	Reading	Berks
C. Lynn Keller	Newmanstown	Lebanon
Franklin D. King	Port Matilda	Centre
John A. Lukas	New Castle	Lawrence
Denver A. McDowell, Jr.	Ebensburg	Cambria
Richard W. Oliver	Evans City	Butler
Alfred N. Pedder	Ardara	Westmoreland
Paul G. Piechoski	Philadelphia	Philadelphia
James E. Rankin	Tarentum	Allegheny
Barry K. Ray	Derry	Westmoreland
Jacob F. Serfass, Jr.	Lehighton	Carbon
James P. Shook	Cogan Station	Lycoming
George B. Thomas	Franklin	Venango
John K. Weaver	Flemington	Clinton
Harold D. Wetzel	Sylvania	Bradford
Leo C. Yahner	Patton	Cambria
Gerald J. Zeidler	Philadelphia	Philadelphia

Archers Break Deer Harvest Records

ARCHERS demolished all existing deer harvest records for Pennsylvania during the 1967-68 license year, according to official figures released by the Game Commission. The count of big game kill report cards returned to the Game Commission showed that 3251 archers took whitetails in the Keystone State during the regular and extended archery seasons.

The total for the year is an all-time record, and shows the remarkable growth of the sport in recent years. In 1964, bowmen reported taking 1600 deer; in 1965 the figure rose to 2119; and one year ago the total reached 2337.

Reports filed by successful archers showed that an even 1200 antlered deer were tagged, including 731 with three or more points and 469 spike bucks. The antlerless deer harvest of 2051 included 1574 does and 477 males. All of these figures are new records. Overall, slightly more males than females were taken.

Potter County, the leader in all big game harvest categories in 1967, also led all other counties in reported archery success. Bowmen there tagged 405 whitetails, another record. In second place in total harvest was Forest County with 215, followed by Clinton County with 142.

Resident archers reported taking 2675 deer, and nonresidents bagged 576 whitetails, also new records.



ARCHER Earl Hochendoner collected this 10-point, 155-lb. whitetail buck to help boost Pennsylvania's outstanding bow harvest.

In addition, another eight archers, all Pennsylvania residents, reported taking deer with bow and arrow during the regular gunning seasons for whitetails.

During the regular gunning seasons, riflemen took 137,482 deer in the Commonwealth, shotgunners accounted for another 3503 and hand-gunners tagged 171, to make up the total harvest of 144,415.

Jobs for Students

Qualified high school, college and graduate students interested in conservation will be hired this summer in 21 national parks and forests areas, according to the Student Conservation Association. This program has a twofold purpose: to assist conservation agencies' work on needed projects, and to expand the student's conservation knowledge through actual field experiences. Living expenses are covered by the Association, but students are not paid salaries. Information and application forms are available from: Student Conservation Association, Inc., Mtd. Rt. Box 304, Sagamore Hill National Historic Site, Oyster Bay, N. Y.

Wetlands Are Never Wastelands



WETLANDS are a necessity if waterfowl are to be hunted.

Here is a statement with worldwide application. It is from a booklet published by The International Union for Conservation of Nature, with headquarters in Switzerland.

THIS is a plea for everyone whose work has any bearing whatsoever on the future of marshes and wetlands, a plea that you will at least pause and consider your plans in the light of our arguments. We maintain that wetlands are a natural resource, comparable to forests and farmland, and essential to many activities—a resource so valuable, and now so scarce, that every effort must be made to preserve what still remains.

By wetlands we mean all areas of marsh, and all stretches of water less than 20 feet deep, whether fresh or salt, temporary or permanent, static or flowing. Important categories include estuaries and coastal shallows, brackish and saline lagoons, natural

and artificial lakes, complexes of small ponds or potholes, reservoirs and gravel pits, rivers, swamps and flood-meadows. Together these various habitats support a vast and specialized range of plant and animal life, the full value of which is only now being realized.

Anything which results in the useless wastage of wetlands is to be deplored. The tidy-minded canalization of rivers, streams and estuaries, the tipping of garbage and the thoughtless pollution of coastal and inland waters, the ill-considered drainage and development of marsh, lake and shore—all these combine to hasten the dreary uniformity which passes for progress. Do we really want to live alone on this earth, in a vegetable garden, with only our cows and hens for company?

- The conservation of wetlands is a moral, aesthetic, scientific and economic necessity.

- Wetlands are a natural resource, a part of our heritage; many millions of people find pleasure in wetland recreations.

- Wetlands are rich in opportunities for research and education.

- The use of wetlands to best advantage is a biological problem; in reaching a solution we must follow biological disciplines.

- Ill-considered drainage results in a chain of troubles; short-term gains are never worth a long-term loss.

- Water conservation is vital. More food must not imply less water.

- Wetlands are a natural asset. Exploit them . . . don't destroy them.

- *Wetlands are never wastelands.*

Another Blaze Orange Benefit

Have a poor sense of direction? Wearing "blaze orange" in the woods enables search parties, both on the ground and in the air, to spot you quickly.

The Eyes and Ears of the River

By Vernon T. Houghton, Jr.

In May, 1961, through the efforts of the Western Area Director of the State Civil Defense, a new lifeline of emergency reports on river conditions was developed to assist the Federal-State River Forecasting Service in Pittsburgh. The Pennsylvania State Game Commission offered their services in furnishing up-to-date emergency reports on severe weather, ice conditions, floods and related matters. Game Protectors in the field have become the "eyes and ears" of the River Forecasting Service in western Pennsylvania, and the information received from these men has paid dividends in preventing loss of life and minimizing flood damages.

It appears to be an annual occurrence to have ice gorge problems in the Allegheny River Basin. Game Commission personnel have worked untiringly around the clock during periods of ice breakup, reporting current river conditions and movement of ice. The radio communications through Civil Defense Headquarters have provided the River Forecasting Service with current and accurate information whereby warnings have been issued well in advance of the ice or flood threat.

In the seven years since this cooperative program was established, flood damages in western Pennsylvania have amounted to \$20,750,000, with savings due to action taken upon receipt of flood warnings of \$37,-400,000. Only one life was lost during



INFORMATION from Game Protectors has been useful in preventing excess damage due to flooding.

this period. The effectiveness of the flood warning service has been greatly dependent upon this cooperative program with Civil Defense and the Game Commission.

During the recent ice flood of January 30-February 1, 1968, Game Commission personnel from Warren County, Butler County, Clarion County, Erie County, Armstrong County and Crawford County did outstanding work in the field and it was mainly through their efforts and reports that communities such as Meadville, Parker, East Brady, Kittanning and Freeport were warned of ice movement and given the necessary time to take precautionary measures to prevent serious damage.

Recreation Promotion

A professional 20-minute color and sound motion picture film on the attractions of Potter County is available for free showing to sportsmen's clubs and other groups. Emphasis in the movie is on outdoor sports. The film was produced by Potter County Recreation, Inc. For information, contact William D. Fish, Jr., at *The Potter Enterprise* in Coudersport, Pa.

Loaded Gun in Vehicle Clarified

The Pennsylvania Legislature recently amended Section 806 of the Game Law for the purpose of clarification. The Act, No. 340, became effective December 14, 1967.

The law previously prohibited the possession of a loaded rifle or shotgun in or on a vehicle while being driven on or along, or parked on or along, a highway open to public travel.

The word "along," which was subject to many interpretations, was deleted and the words "or the right-of-way of such highway" inserted in the amended version.

Since highway right-of-way widths are extremely varied, Pennsylvania Game Commission Law Enforcement Chief James A. Brown offered the following guidelines:

The right-of-way of improved roads can be interpreted for purposes of this Act to mean the roadway including the shoulder or berm, or the area within guard rails or fences.

Unimproved roads, dirt or gravel, normally have a 33-foot right-of-way. For the purpose of this Act a person will be considered in violation if he has a loaded gun in or on his vehicle while any part of the vehicle is within 16½ feet of the center of the traveled portion of such road.

Although this law pertains only to loaded rifles and shotguns in or on vehicles while on the right-of-way of roads open to public travel, Brown reminded all hunters that attempting to take or kill game from a vehicle at any place or time is in violation of the Game Law.

State Sportsmen Honored

The Pennsylvania Federation of Sportsmen's Clubs is one of two state conservation organizations affiliated with the National Wildlife Federation to be honored for outstanding service to conservation during 1967. The "Conservation Service Citation" was presented to the Keystone State group at the annual meeting of the national federation in Houston, Texas, in March. The 129,000-member Pennsylvania group was cited for its record of accomplishments, including leadership in public support of the Commonwealth's Strip Mining Reclamation and Clean Streams programs, sponsorship of a conservation camp for high school students, conservation education programs and support of a major land and water conservation bond issue. The other state honored by the national group was North Dakota.

NRA Endorses States' Rights

The National Rifle Association of America is supporting the attempt to enact legislation to prevent the Federal government from violating state game laws.

A number of bills to confirm states' rights to manage fish and wildlife within their borders have grown out of a dispute between the New Mexico Department of Game and Fish and the U. S. Interior Department's National Park Service. Last year park rangers killed several deer in Carlsbad Caverns National Park for study purposes without acquiring the necessary state permits. New Mexico has instituted suit for injunction to stop the unlicensed killing of deer by the Park Service.

Open House at Game Farms

THE Pennsylvania Game Commission will conduct open house ceremonies at all Game Farms on Sunday, June 2, from 1 to 5 p.m.

It was most gratifying to note the response to this program last year. Visitors expressed a keen interest in the artificial propagation of waterfowl, turkey, pheasant and quail operations.

Uniformed officers and Game Farm personnel will be on hand to conduct tours and explain the fascinating program of hatching and rearing game birds. Young birds of various ages will be on display.

Names and locations of Game Farms and species produced by each are as follows:

Eastern Game Farm, RD 2, Schwenksville, between Limerick and Schwenksville. Quail and pheasants.

Western Game Farm, Cambridge Springs, RD 1, three miles southeast of Cambridge Springs on Route 408. Pheasants.

Loyalsock Game Farm, RD 2, Montoursville, five miles north of Montoursville on Route 87. Pheasants.

State Wild Turkey Farm, Proctor Star Route, Williamsport, seventeen miles north of Montoursville between Barbours and Proctor. Wild turkeys.

State Wild Waterfowl Farm, RD 4, Meadville, two miles northwest of Geneva. Mallard ducks.



THESE TWO YOUNGSTERS will long remember their visit to the Wild Waterfowl Farm.

Southwest Game Farm, Distant, three miles south of New Bethlehem near Distant on Routes 28 and 66. Pheasants.

Book Review . . .

The Adaptable Black Bear

J. R. Matson distills 70 years of firsthand observation and study into 147 pages of delightful reading in *The Adaptable Black Bear*, a subject about which too little has been written. Although claiming disinterest in scholarship, the author shows more than a smattering of scientific knowledge about bruins. Many of his "old theories" on wildlife have since become proven "facts," and his experiences with black bears, mostly in Pennsylvania, lay to rest strange tales often associated with bruins. Autographed copies are available to GAME NEWS readers from J. R. Matson, 76 Lake Street, Perry, N. Y. 14530. (Dorance & Co., 1809 Callowhill Street, Philadelphia, Pa. 19130, 1967, \$4.)



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



TUNKHANNOCK AREA HIGH SCHOOL FFA students Dale Shupp, Stirl Hardy, Ted Bullock and Rod Decker present "Firearm Safety and Care" program.

Safety Theme of Farm Show

SAFETY was the theme of area high school demonstrations during the 1968 Pennsylvania Farm Show. Farm safety and hunter safety were presented to an audience and judges for statewide competitive recognition, with shop safety, tractor safety and falls covered extensively.

Students of Penns Manor Area High School, Clymer, elaborated on their previous firearm safety demonstration of Safety First in the Great Outdoors. This demonstration later will be prepared for television presentation, according to Vocational Agricultural Advisor J. J. Javornik. Other excellent demonstrations were put on by Tunkhannock High School, on Firearms Safety and Care, and Northwestern Beaver High School, on Hunt Safely and Stay Alive.

In addition, very fine conservation demonstrations were provided by Brockway Area High School on Fire Prevention and Control of Forest Fires, and Meyersdale High School, Somerset County, with Conserve Wildlife Through Good Sportsmanship.

Impressive features of all the school demonstrations were the use of visual aids in projecting points of interest.

Scout Camporee

THREE HUNDRED and seventy-one Boy Scouts and adult scouters were recently certified as safe gun handlers, after completing the Pennsylvania Game Commission's hunter safety training course at the Fort McIntosh Boy Scout District Camporee. The program was directed by District Game Protector Harry Merz of Beaver County, assisted by ten District Game Protectors and Deputies from neighboring counties.

Five hundred people attended the three-day program, which included a shooting demonstration by Tom Auld and Scouts from Post 451. In addition, an archery demonstration was put on by the Beaver Valley Archers. This part of the program included instruction on the safe handling of a bow.

Hunter Safety Report

A report on hunter safety training just completed shows increased participation by students receiving the four-hour course in the safe handling of sporting arms. Many schools and groups are now presenting hunter safety training. Schools and sportsmen's clubs reported 16,782 students certified for the first half of 1967, compared to 15,965 certified prior to and during the regular hunting season.

To date 142,907 safe hunters have been certified, of which 32,747 received their training during 1967. Additional assistance has been provided by the certification of 1083 hunter safety instructors in 1967.

Safe Homes

Firearms safety courses are now being taught in more than 200 American cities. In most cities the response to the home safety program has been three to five times greater than expected. A majority of the men, women and younger people enrolled in the course have firearms in their homes, but have never fired them. Police in some of the cities have found that following the conclusion of the firearms program, burglaries of private homes drop off. The criminals must be afraid of those "pistol packin' mamas."



Photo by John Wary

DGP CLYDE LAUBACH points out various firearm features to students as instructor Barry Deppen watches.

Safety Certification

Pennsylvania's Hunter Safety certification was presented to 57 Line Mountain Junior High School Sportsmen's Club students after completing a five-week course in the safe handling of sporting arms.

In cooperation with District Game Protector Clyde Laubach of Northumberland County, Barry Deppen, a National Rifle Association instructor and a member of the Junior High School faculty, provided instruction on basic information about safe gun use. Instruction in archery and reloading will be included in the future activity of this Trevorton club, according to Roger Henninger, Junior High School principal.

Many Northumberland County schools are participating in hunter safety training, in an outstanding effort to decrease firearm accidents through education. Such efforts are bound to prove worthwhile.



NEU
SAUT.



By NED SMITH

A long-forgotten sketchbook brings back memories of a May now thirty years gone and an uninhibited mockingbird impersonates twenty-eight birds . . .

LAST EVENING I was sorting out the contents of a closet and came across an old spiral-bound sketchbook filled with amateurish watercolor studies of birds. The dates beneath the sketches provided a mild shock—I had painted them in May of 1938, a year after graduating from high school!

It really didn't seem that long ago. I recall that employment at the local shoe factory had been fitful at best, and when the foreman announced yet another layoff one balmy spring day I had plans for my free time. Hurrying home, I packed my battered pup tent, enough grub for a week's survival, a six-inch frying pan, a small kettle, some sketchbooks and watercolors, and a cheap pair of French binoculars. What wouldn't go inside my rucksack was tied on top, and I headed across town toward Berry's Mountain.

There was a little spring on the south side of the mountain, and I pitched my tent nearby. For a week I did nothing but enjoy nature for all it was worth. Most of the time I merely sat by the spring and watched the wildlife that came and went. When the spirit moved me I would take a leisurely stroll through the woods, returning to the tent only to

eat and sleep, or to wait out a sudden shower.

It was a rich, soul-satisfying experience. Screened by the alders, I was as much a part of the scene as the crumbling stump at my back. All day long songbirds dropped in from the surrounding forest to bathe in the shallow pools and rearrange their feathers in the alders almost within reach. For the first time I saw a yellow, green, and black hooded warbler three feet from my nose. A brilliant scarlet tanager met his reflection in a tiny pool and splashed ecstatically. Ovenbirds, vireos, crested flycatchers, and warblers of every description were hourly visitors. Gray squirrels sipped daintily, then departed as quietly as they had come. One afternoon a cagey grouse brought her brand-new brood almost to the spring before she saw me, but when I didn't move she led them away again without fuss or alarm. Deer strolled down a path behind the tent every evening, and as the shadows lengthened the wood thrushes made the mountainside ring with their flutelike song. And the whippoorwills! I fell asleep with their tireless cries whooping in my ears.

Being alone on the mountain wasn't new to me; I had learned long before that going it alone was the way to

see things. But that was my first experience in actually living alone and being a part of the woods, rising with the sun and going to bed with the thrushes, having nowhere to go and nothing to do except to get to know the wild things a bit better. It was an adventure that I repeated, and it never lost its appeal.



May 1—If there's a more obstinate creature than a porcupine I haven't yet made its acquaintance. This afternoon near White Deer Creek we saw one waddling toward an unoccupied hunting camp, and, hoping for some pictures, we tried to head him off. Typically, he had other ideas, and resolutely stayed on course. Within two feet of where I stood he spun around and backed toward my shins, clearing the way with lashing, quill-studded tail. I stepped aside. Jack took him on next—and was as quickly routed.

The porky made it to the porch where he took refuge beneath an old settee. I tried to pry him out of there with a board, but he braced his sturdy legs and it was a full minute before he came sliding out, only to try to scramble into the open woodbox. Jack pulled him back with an old broom. Our combined efforts kept him from getting under the settee again, and we finally rolled him onto the open

lawn, where he shuffled off again, heading for a nearby brook.

To our amazement he stopped unexpectedly and posed obligingly on a driftwood jam that bridged the water. I gleefully focused the camera—but not for long. Through the finder I noticed for the first time that the tussle had completely ruined our model. His quills had picked up an unattractive assortment of dry leaves, grass, and cobwebs. We left him muttering to himself, looking more like an animated compost heap than a porcupine.

May 3—It was amusing to see a tiny newt following a bluegill around the shallows of a Powell's Valley pond, nipping at the fish's tail like a playful puppy. Could the mating season be responsible for his courage?

May 5—Ted has been watching a family of red fox pups that live near his York County home. Every time he hikes over that way they are out, too occupied with their playing and romping to notice him spying on them. I joined him last week, and though we hid near the den for hours and managed to see the old female, the pups never came out.

Today I tried again. The dog fox had apparently been watching from the other side of the big hollow leading to the den, for we saw him loping up through the woods at our approach.

The den was a complex of enlarged groundhog holes just inside the woods next to an alfalfa field. The "front door" beneath a large stump was strongly buttressed by criss-cross roots, with several other entrances nearby. The activities of the fox family kept the ground around most of the holes completely bare, and feathers, fur, and bones scattered about were evidence of their varied diet.

After an unrewarding watch of an hour or so we took a leisurely walk away from the neighborhood of the den, eventually circling back to the

big hollow where we had jumped the male. Ted was sneaking along ahead of me when he suddenly stopped. Peering past his leg I saw a little fox pup ambling toward us, and behind him another. They hadn't seen us, so Ted carefully stepped out of the way so I could get a picture, but by that time they had disappeared beneath some briars and fallen limbs.

I waited, camera poised. Finally one pup reappeared, sitting upright in a patch of May apples. He was pretty well hidden, but each time I tried to step up onto higher ground he saw the movement and threatened to bolt. Through the telephoto I watched until he forgot about us. He looked about with his foxy hazel eyes, licked his chops, and followed the looping flight of a bumblebee overhead. Occasionally, he scratched a persistent flea. I couldn't hold the pose any longer and he seemed reluctant to move into the open, so I took his picture anyhow. At the click of the shutter he snapped to attention. I tried to advance the film but he caught either the sound or the movement, and ducked into a groundhog hole. We watched for another hour but saw nothing. Ted's conclusion was that their mother had moved them from the original den to this new location down the hollow.

May 12—We had the season's first mess of lamb's-quarters today, and agree that few wild greens are better. The new plants are only three or four inches high, and that's when the leaves are at their tender best.

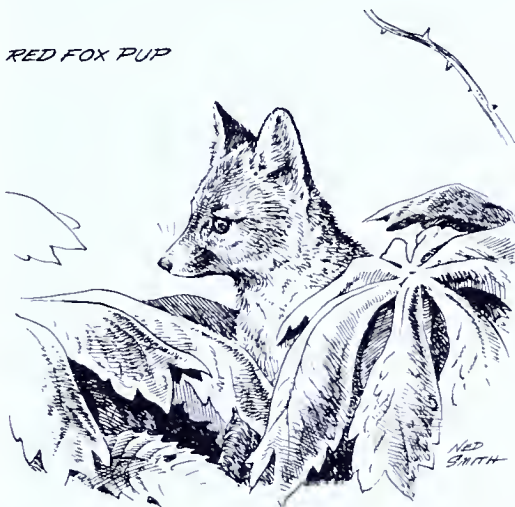
Lamb's-quarters is a common weed, growing tall and thick where the soil is rich. Some folks call it goosefoot. A good identifying characteristic is the frosted or mealy under surface of the leaf which sheds water like waxed paper.

May 13—The spring migration is at its height and Mahantango Mountain was absolutely alive with birds this afternoon. I identified sixty-three species, and could undoubtedly have

found more had I not spent much of my time observing and sketching certain ones.

Once again I couldn't help noticing that the most incredibly beautiful birds are not rarities at all, but are in fact some of our most common species. The unfortunate thing is that the average person doesn't know such birds exist at all. The male scarlet tanager is a good case in point. Few birds of the tropics are more brilliantly attired than this red and black beauty. He is one of the most abundant birds throughout much of Pennsylvania's wooded areas, and yet few people who are not birders have so much as noticed him.

RED FOX PUP



The little indigo bunting is another example. When he first arrives in our area in the spring the male is a breathtaking blue—changing from azure to cobalt to turquoise under different lighting conditions. As the season progresses his plumage deepens, assuming the rich indigo hue that gives him his name. He is extremely abundant nearly everywhere and is intentionally conspicuous, insisting as he does on singing from the topmost twig of tree or bush. But few people know him. Perhaps it's because he is so small, and his color is not easily distinguished against the sky. More likely it's because people are not too observant.

May 15—Our neighborhood mockingbird is an irrepressible mimic. Not only does he never sing an original phrase, but he jumps from one impersonation to the next at an incredible rate. This afternoon his voice came through loud and clear from the vicinity of Knouff's backyard, and I quickly jotted down the birds he mimicked as he sang. In less than ten minutes I recorded the notes of *twenty-eight* species, including such distinctive and varied voices as the sparrow hawk, the whippoorwill, the kingfisher, the ovenbird, and the flicker. His impersonations were excellent, but in some cases came on a bit too strong. His bluebird, for instance, sounded as though it were murmuring through an amplifier.

May 17—May flowers are world-beaters, and even the most case-hardened outdoorsman will stoop to admire a stand of stately pink moccasin flowers beneath the hemlocks or a patch of blue mertensia. Even when the color is not particularly striking there's variety in the shape of the May wild flowers that isn't duplicated in any other season. Consider the strangely formed blooms of the Jack-in-the-pulpit, the fringed polygala, the wild columbine, and the aforementioned moccasin flower and mertensia.

May 21—The starling that sings from the white oak down at the spring may not have the mockingbird's repertoire, but he certainly digs up some unique material. This morning I heard him insert into his medley some perfectly executed and immediately recognized imitations of a gray squirrel barking and a rooster crowing!

May 23—Pilot blacksnakes are absolutely unpredictable in their reactions to humans. A week ago one actually followed me for ten or twelve feet, striking harmlessly at my legs as I strolled by his basking place on a stone pile. Each time I turned to face him he stopped, then got in a few

more licks when I turned to go. The mating season fills them with admirable, if indiscreet, valor.

On the other hand, I've met two blacksnakes this month that let me ease a camera within a foot of their faces to take their pictures. Other than a few flicks of their tongues they moved not a muscle.

Today I stopped to inspect a five-footer stretched out in a dirt road and provoked still another reaction. Without any preliminaries he quickly drew himself into an intertwined ball—a surprising maneuver in itself. Even more amazing, he slowly threaded most of his length across his everted vent, smearing himself with vile smelling musk. It's not uncommon for snakes to expel this smelly secretion when handled, but I've never before seen one coat himself with the stuff as a precaution, and the maneuver had all the earmarks of being premeditated.

May 24—Mr. Holmes invited Ralph C. and me to his home along the Yellow Breeches where, he told us, a few yellow-crowned night herons had been feeding each evening. We were grateful for the invitation as, aside from being singularly handsome birds, these night herons are not common here.

Just before sunset—too late for good color shots—two of the birds dropped in to feed in the soggy grass along the creek, while another perched picturesquely on a high tree limb. We studied the latter through the 20-power scope for nearly a half hour, drinking in every detail of his exotic form—the long legs and bill, the black-cowled face, the creamy crown with its graceful white plumes. We all agreed that he would look more at home reflected in a tropical jungle pool than in a Cumberland County treetop, but he did do a lot for our scenery. When he hunched his shoulders and silently flapped away the tree limbs looked suddenly stark and empty against the evening sky.

A Pig for Punishment

By Keith C. Schuyler

Photos by the Author

WHOEVER stuck the label “groundhog” on the fastidious woodchuck certainly did the animal a disservice. For the most part, this interesting creature eats nothing but succulent plants and would certainly turn up its blunt nose at much food which would delight its namesake.

On the other hand, if the person who maligned our favorite spring bow hunting target had in mind the animal's ability to take a maximum of abuse and still come up whistling, he is forgiven. For the woodchuck is a pig for punishment. And he does live in the ground, so maybe “groundhog” is understandable. Just for the record, you can mark down that his scientific name is *Marmota monax*.

And, whistlepig! Okay, he whistles. But there any similarity to the animated garbage pails which produce pork chops stops. Except, well, darn it, maybe the woodchuck does get fat. But he has a lot different reason for building up blubber than does the barnyard slob, who, let's face it . . . is a hog.

The sidehill sentinel who stirs the red blood of any American and has been known to entice the 10-power bluebloods from the rifle target range eats to live. He has to absorb a lot of clover between March and October so that he can get through the big sleep. Even though temperature may drop to 4° to 7° C, and his pulse to 4 or 5 beats a minute when snow covers the clover, his 100-plus heart-beat will match yours as you line up on him when he is relatively skinny in May.

For a number of reasons we should take a look at the woodchuck now as



WOODCHUCK bagged with bow is displayed by Joe McMullen. These are tough targets, not easily taken.

a late May target for the bow. With most of his fat used up while he slept through the cold months, he is in better flesh now than he will be later on. After emergence from hibernation, usually in early March, and it is easy

to see why the chuck must eat . . . and often. His need to eat is where we come in.

Hungry as a chuck might be, you will seldom find him farther than 100 yards from his burrow. Until hay cutting time next month, it will usually be necessary to find the burrow to find the chuck. If this is in a field of high clover, forget it. The farmer isn't going to enjoy watching you mash down his cow food much as you might want to get at his woodchucks—and much as he might want you to get at them.

Don't forget it for good, however. These are the targets you will want to go after in a month or so when hay cutters have cleared visibility.

Now is the time to seek out burrows in fencerows, woodlots and on cultivated ground. There are plenty of spots in these areas where woodchucks like to build their subterranean shacks. The thing is to find the burrow first and then seek out runways which may lead to greener pastures. By stationing yourself either near the burrow or along the trails, you have a chance to catch a chuck going or coming. And, of course, your chance to catch him sitting up while he scans

STEALTH and considerable stalking skill are necessary if the archer is to get within range of a chuck.



the horizon is directly proportionate to your visibility ability.

Those who hunt woodchucks in areas where the pressure is heavy cannot help but be aware of the increasing wariness of the big marmot. You need only seek him out where there is much less hunting to notice the difference. Since those who depend upon the bow to collect their trophies must get close to them for the payoff, we prefer to have him within whispering distance.

Probably none of the smaller hunting targets offers better practice for the big-game seasons than does the woodchuck.

Use Big Game Bow

First, you shouldn't even consider going after this tough target with anything lighter than your regular big game hunting shafts. And, since you can't shoot such shafts from a light target bow, it naturally follows that you must use a hunting weight bow for the job. Usually, this provides no problem, as most hunters own but one bow and this one was bought to shoot deer. Consequently, the preceding is meant more as a warning to those who use an alternate bow for target shooting to leave the light stuff home. It isn't that a light bow doesn't have the moxie to mow down a chuck, it is just that few archers have hunting arrows for their bullseye bows. Since the average target bow is in the well-under-40-pound class, it should not be used on big game.

For our purposes here we are going to assume that the average big game bow is in the 40-pounds and up class. These are frequently seen on field courses where deer hunters try to punch holes in pasteboard between seasons. Arrows used can be converted to woodchuck worriers simply by substituting a hunting head of about the same weight as the target head.

There was a time when writers, including this one, were inclined to advise using up old arrows on small



BEFORE THE HAYFIELDS are cut, the best places to seek out woodchuck burrows are hedgerows and uncultivated ground.

game. Breakage and loss here are high. However, experience dictates that no one should go after living targets with anything less than good equipment. There are two reasons for this. In the first place, however grim it may sound, our responsibility is to make clean kills. You lessen your chances by using odd arrows of improper spine or ones which have been broken and shortened—which also gives them improper spine. The other reason is simply that you foul up your shooting by trying to use arrows which are not proper for you and for the bow you are using. Trying to allow for imperfections in your equipment is an excellent way to develop an utter state of confusion every time you pull up to shoot.

Not too many years ago, arrows were so poor that archers had to remember which one shot high, left or right, so that they could allow for error. They even numbered the shafts to help this practice. This is no longer necessary nor desirable, due to the precision built into today's arrows.

Getting back to why woodchuck hunting is both challenging and rewarding, consider the size of the beast. Any body hit with a hunting head from the diaphragm forward is likely to produce a quick kill. If you

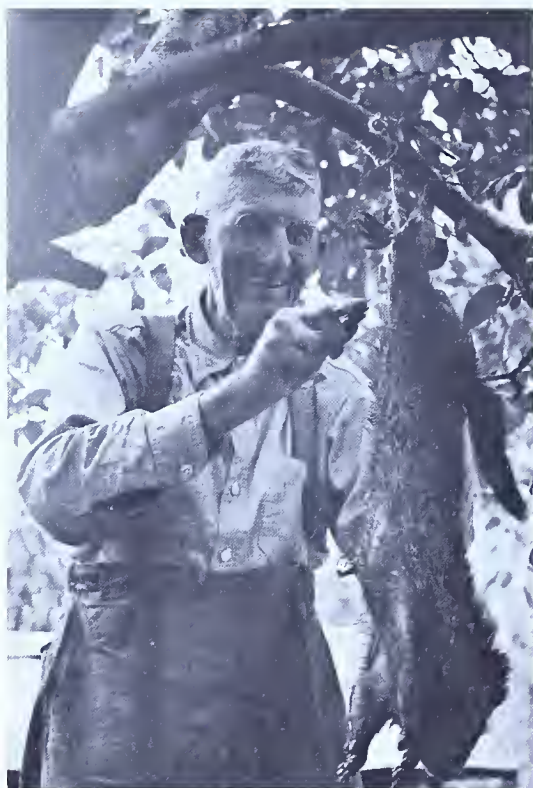
can hit a chuck in the vital area with a broadhead, you can also kill a deer. And all the factors are present to some degree which you will encounter in deer hunting.

Problems

Your footing may be somewhat uncertain, you have hazards of brush, leaves and grass, you frequently have the agonizing wait. When the shot does present itself, you are apt to become excited. All the elements of deer hunting are there except that the target is much smaller and twice as tough. Ruggedness of the chuck suggests the carrying of a properly licensed revolver to administer the coup de grace if the arrow isn't immediately effective.

The three-bladed bodkin point continues to be one of the most practical heads for woodchuck hunting. Its mass tends to make an extremely damaging wound while imparting a certain amount of shock. Most are so constructed that, if the head is properly affixed, the shaft can be used to extricate an animal which partially escapes down a hole, if the feathered end can be reached by hand.

One advantage of late spring hunting is that some young, tender animals



AS MANY chuck hunters know, the meat of these little animals is tasty eating and should not be wasted.

may be available. The old folks have less of the fat that they begin storing for late fall, and the youngsters have very little as they are developing. Although they grow fast, they do not acquire heavy fat until they have developed their body frame. A properly prepared woodchuck is a definite table treat.

Too, as with all creatures, it takes some time for youngsters to become properly apprised of the danger that humans represent to them. Your chances are better with young chucks, even though your target is smaller.

A clue to where you might best find woodchucks is their diet. Clover is by far the favorite food, although a chuck will eat most types of grasses. Vegetables are high on the list of preferred delicacies, as many gardeners have learned to their sorrow. Last year, James Hyde of Nescopeck shot a chuck that had rabbit fur and flesh in its mouth, but such acts are rare.

On our bit of rural real estate I once had started a lovely patch of cucumbers. Their lush vines gave promise of great things to come, but on return from a week's vacation I found that woodchucks had leveled the patch to a series of one-inch stubs of stalk. Since we encourage chucks to build burrows which encourage rabbits, I turned the cucumber patch into lawn.

Woodchucks will also feed on soybeans, alfalfa and just about anything else that grows green. Consequently, you are likely to find their telltale burrows almost anywhere. Since they frequently expand and enlarge their underground runways, fresh dirt at the hole is often a clue as to whether a particular burrow is in use. Taking a stand where you have a clear shot at that hole will often bring action.

One suggestion. Be certain that you are clearly visible to other hunters. A fluorescent orange hat is advisable.

No amount of bow hunting seems to thin the chuck's numbers much. He may be a pig for punishment, but the woodchuck contributes much to the conservation of other game species, while providing plenty of action for off-season shooters throughout most of the warm months.

EXPRESSION ON THIS little fellow's face proves he's tried roasted chuck before, knows what's coming!



Fire Extinguisher Blanket

By Don Shiner

FIRE IN CAMP can lead to disaster. And it can start innocently. Grease spills from a pan onto the hot camp stove, and flares up in flames. Sparks, from somewhere, ignite fuel being poured into or leaking from the portable stove. A lighted kerosene lantern is knocked over or falls from a shelf, or a hunting coat, hung next to cherry-red smoke pipes, catches fire and burns. Sparks, from pine wood, spit from the outdoor fire and settle unnoticed among dry leaves. The wind fans embers, thought to be dead, to blaze anew after everyone has gone to bed.

Of course, one seldom thinks about fire breaking out in camp. Neither does one think through what havoc it could cause if this should happen. But it can happen, and it does, to some few camps each year. And it might well happen more often in the immediate future. With the number of campers growing each year, it is inevitable that more fires will occur in camp. Occupants may or may not be able to extinguish them before they grow into roaring infernos. But big or small, fire in camp can often ruin the vacation or hunting trip.

A new fire extinguisher blanket, designed to put out the small flash-fire, has recently appeared on the market. It is made of pure non-woven asbestos fabric, marketed by the Midland Trading Company, 201 North Wells Street, Chicago, Ill. 60606.



NEW BLANKET of asbestos fabric will help eliminate danger from small fires around camp.

This fire extinguisher blanket comes in two sizes. One measures 34 by 38 inches, the other is 24 inches square. They are designed with the camper in mind. This blanket is small enough to be included in the gear without adding noticeable weight. It is not intended for fighting large fires, such as those which fill entire cabins or trailer interiors. Nothing helps much at this stage. The fire extinguisher blanket is intended to smother the small flash-fire before it can grow into a holocaust. It might well save the day for those who have included one on their camping trip. It is added insurance for that expensive cabin or second home.

I've often thought that most camps are vulnerable to fire. Neither canvas tents, sleeping bags nor blankets are fireproof. Because much of this equipment is spread about, often near open



ASBESTOS BLANKET comes in a small, neat container, can be stored handily in cottage or at camp.

flames, there is always danger of it catching fire. A spark may smolder for a long time in a blanket, then gradually blaze up and assume dangerous proportions unless found and extinguished.

To be perfectly candid, I do not know exactly what I would do if fire broke out in my camp. I've always sought to pitch camp near a stream, though there were times when I could not do so. There might or might not be adequate water—the old and reliable fire extinguisher—to put out a fire, and this might not do the job anyway if grease, gasoline or some other volatile liquid were the cause.

One could grab bedrolls or blankets and attempt to beat out flames, shovelfuls of sand or dirt might help to smother them, and a soda- or foam-

filled extinguisher would extinguish small flash-fires easily, if one were available. Not many of us bother to include a small extinguisher in our camping gear, though.

When we received word of this new asbestos fabric fire extinguisher blanket, we quickly got one for our camp. We tested it by deliberately setting fire to a small pile of leaves and then using the asbestos blanket to extinguish the flames. It did the job, just as the accompanying directions said it would. Flames were smothered quickly.

Blankets of both sizes come packed in cardboard tubes with carry/wall-hanging cords. The tube itself is bright red, as are most fire extinguishers, with colorful flames printed around drawings of persons extinguishing small flash-fires in the kitchen and workshop.

Our initial test showed that this blanket is capable of extinguishing the small fires that might get going in camp. The fabric itself proved fire-proof, and it did not burn or smoke. Ours bore several dark marks after putting out one fire, though I suspect these were carbon deposits from flames. It did not show signs of ever catching fire.

The carry/wall-hanging cord permits hanging tube and blanket handily against some cabin or trailer wall, where it is instantly available in case of an emergency. I hung ours on a nail driven into the wall of our cabin.

We fervently hope *GAME NEWS* readers will never experience fire in camp. But if a flash-fire does occur, you will thank the day an extinguisher of some type was included in the gear. This fire extinguisher blanket is a good one to take to camp.

Due to Hunters' Efforts

The elk population of the United States has increased from 50,000 to approximately 250,000 animals in less than 50 years.



HIGH-VELOCITY CARTRIDGE, such as this bull-barreled varmint rifle handles, takes much of the guesswork out of long-range shooting.

Some Thoughts About the Problem of . . .

V-E-L-O-C-I-T-Y!

By Don Lewis

Photos by Helen Lewis

"HERE'S THE RIFLE I was talking about on the phone. If you can't find a remedy for whatever is wrong with it, I hope you'll be able to find someone in need of a darn good looking chuck outfit."

With that, the man handed me a sleek, custom-made rifle. A medium-weight barrel on a Mauser 98 action, beautifully inletted into a curly maple stock, suggested this was not an ordinary rifle. Furthermore, it carried a fine 15X target scope. If looks counted, this rifle could plug a chuck at 300 yards with ease.

I shook my head. "I can't believe you have a problem so big that you would want to sell this rifle."

"It's the poorest excuse for a chuck

rifle I've ever seen. I had it made especially for long-range shooting, but beyond 150 yards a chuck's as safe as can be." His tone showed disgust.

"I can't understand that. The 243 is one of the finest chuck cartridges around, and with all the expense you've gone to, this rifle ought to do an outstanding job."

"That's what I've been told by other hunters and a couple of gunsmiths. In fact, when I had the rifle built, I was assured that the 243 was the *only* chuck caliber to own. I have to laugh every time I think of it. My little 218 Bee will shoot the pants off this rifle any night of the week."

"You still haven't told me exactly what the problem is," I reminded him.

"Something must be radically wrong when you want to go back to the Bee."

"It won't shoot any farther than you can throw a bull by the tail," he told me sharply. "I can take a shot at a chuck 250 yards away and light my pipe before the bullet gets there, and if I don't hold a mile over it, the bullet will kick up dust in front of the chuck."

"Wait a minute, now. I've owned several 243s, and I've tested or zeroed in at least a hundred, and I know the 243 just doesn't act like that. Either you have a severe problem or else you happen to be the fastest pipe lighter in Pennsylvania."

"What's your feeling on it? Is the 243 a good chuck rifle with plenty of speed to cover the long shots?"

"I can't answer your first question without doing some testing, but as far as velocity goes, the 243 is plenty fast. The 80-gr. factory bullet will

DON LEWIS tests his handloads on a chronograph, knows exactly what velocity they are delivering, thus can easily determine trajectory.



leave the muzzle at over 3400 fps, and the 100-gr. slug tops 3000. At speeds like these, the 243 bullets will cover the first 250 yards quicker than you can blink."

"Well, I've been using handloads made up by the man who built the rifle." He pulled a box from a jacket pocket. "I was told this was what I needed for all types of hunting, and that I could shoot as much as I wanted to without burning out the barrel."

Low Gear Load

I looked at the handloading sticker. When I read the data, 40 grs. 4831-105-gr. bullet, I thought my eyes were out of focus.

"My friend, this is low gear ammo. This explains why you want to go back to your little 218 Bee. For one thing, the 105-gr. roundnose bullet is intended for brush shooting on deer, not long-range chucks. Another thing, that load gives only 2500 fps or so. The 243 is intended to give a lot more speed than that."

"I reached the end of my rope with this rifle, but keep in mind that I paid sixty smackers for the barrel alone, and I don't want it scorched by some sizzlin' hot loads," was his frank reply.

"Well, high velocity always costs something in barrel life, but that's the price you pay for top performance. But even with heavy loads a barrel will last thousands of rounds, and that's a lot of chuck shooting when you only fire a couple of hundred shots a year."

I loaded a box of his empties with 40 grains of 4064 and a 75-gr. bullet, then zeroed the rifle in two inches high at 100 yards. I gave him the remaining ammo and explained the trajectory of this load. As he was leaving, I asked him to call me if he noticed any difference. I felt he was still dubious about the rifle and did not think the different load would help.

Two nights later, he left no doubt in my mind that he was a satisfied man. He had shot at seven chucks,

all more than 200 yards away. He had missed the first three by shooting over them, but when he recalled the advice I had given him, he had connected on all the rest. What pleased him the most was the terrific speed the bullet seemed to have. As quick as the trigger was touched, the dust flew a couple hundred yards away, he told me at least five times. I wasn't surprised because the 75-gr. bullet had a muzzle velocity of nearly 3300 fps, a big jump over his previous load. There had been nothing wrong with the rifle; the problem was with the bullet's velocity.

Bullet's Flight a Mystery

The bullet's flight has always intrigued shooters even though there was no way of knowing what happened to it after he touched off the shot. Down through the years, ballistic experts along with hundreds of guncranks have battled the velocity problem, attempting to push a bullet through the air at ever higher speeds without sacrificing accuracy. From about 1900 to 1935, velocity was the paramount goal of many gun builders. A new cartridge was considered superior if its bullet simply had a higher muzzle velocity. This type of thinking began to wane when it became apparent that a bullet had certain limitations so far as speed was concerned. High velocity in itself often offered nothing more than erratic accuracy and short barrel life, and about the end of the '30s the dream of a mile-a-second bullet died, and the quest for sheer speed was over.

To look back much further, the low velocity of the muzzle-loading smooth-bore musket was due in part to its being loaded from the front end. To get an undeformed ball into the barrel it had to be smaller than the bore. This permitted gas to escape past it as it traveled forward. Later, when bores were rifled, the greased patch came into use. Enveloping the projectile and more or less filling the rifling



RECORDING DATA from chronograph lets handloader assemble useful information for future reference.

grooves, it made a good gas seal so long as pressures were low, as they were with black powder. A further advance occurred before the Civil War when a Frenchman, Captain C. E. Minié, produced a thin-wall, hollow-base bullet which expanded tightly against the bore when struck by the expanding gases. This was the famed "minie ball" of that war. This bullet might have been perfected further if breechloading arms using metallic cartridges had not been developed. In these, the cartridge case forms a perfect gas seal.

However, the velocity problem was not solved. Lead was still the primary material used in bullet making, and it didn't take to high velocity. When pressure and velocity were increased, the soft lead bullet refused to follow the rifling and stripped out of them. Tin was added to make the bullets tougher, but velocities still could not consistently top 2000 fps.

The day some bullet designer poured a copper jacket full of hot lead



LONG SHOTS at varmints require high velocity for consistent results, as Helen Lewis has learned through the years.

was the hour of triumph. The tough copper jacket could withstand physical strains much better than lead. Now cartridge designers could go on to unheard of speeds. I think it was about this time that some of these fellows started dreaming of speeds of 5000 fps or better. It took them a long time to realize that much more is necessary to the true flight of a bullet than simply speed.

All designers of projectiles, airplanes, cars, speed boats, space ships, or whatever, realize that stability in flight requires perfection in design. The bullet maker is no exception. A few built-in problems face him. To give the shooter a reliable product he must consider the bullet's sectional density, ballistic coefficient, trajectory, and kinetic energy, among other things. Some of these three-dollar terms get tossed into every bullet or velocity article without so much as a nickel's worth of explanation.

The only thing the reader usually gets is a formula for each, such as W/d^2 , the formula for computing sectional density, or W/id^2 , that for figuring ballistic coefficient. These might touch the tender heartstrings of a

ballistics expert, but the deer hunter freezing in Elk County's big woods couldn't care less.

Still, these are important in bullet design and therefore, ultimately, to the hunter, so we might explain a little about them. Sectional density is a bullet's weight in pounds divided by the square of its diameter in inches. It gives a good indication of the bullet's penetration characteristics. The higher the SD value, the better the penetration, normally — or at least among bullets with otherwise identical construction.

Comparison of Two 30s

As a comparison we might consider two 30-cal. bullets, the 110-gr. spitzer intended for use on chucks, etc., and the 200-gr. round nose, designed for moose and big bear. Since there are 7000 grains in a pound, we set up the formulas thus:

$$\frac{110}{7000} \quad \text{and} \quad \frac{200}{7000}$$

$$(.308)^2 \quad \quad \quad (.308)^2$$

Calculation shows that the SD of the 110-gr. bullet is .166, while that of the 200-gr. is .301. The heavier bullet is seen to have almost twice the SD rating of the light one, thus can be expected to perform best on heavy game, while the light bullet works well on small game.

Sectional density is useful also as a guide in determining a bullet's ability to overcome atmospheric resistance (the better it does this, the flatter its trajectory, thus the easier to hit with over unknown ranges), but ballistic coefficient gives a better representation of that quality. Calculating this is more difficult than figuring SD, though, as a form factor, *i*, is involved and there is no easy way of determining this. However, most custom bullet makers list such information in their literature. They have determined this factor either mathematically or by actual shooting of their bullets under con-



SHAPE OF BULLETS has much to do with their long-range efficiency. Round nose, left, are not as suitable as spitzers; boat-tails help too.

trolled conditions where muzzle and remaining velocities and range were accurately known. The hunter reading this data should know that the higher the BC figure, the more effectively it will retain its velocity and thus the flatter it will shoot.

Streamlined bullets — those with sharp spitzer points and properly designed boat-tails—of course have better ballistic coefficients than round nose or flat point bullets of the same weight and caliber. For instance, the 105-gr. round nose 243 bullet mentioned earlier has a BC of .256, while the 105-gr. 243 spitzer bullet is rated at .395—a marked increase. If started at the same velocity, the spitzer will have higher remaining velocity, and thus energy, at any distance, with the advantage becoming more noticeable as the range gets longer.

Generally speaking, velocity is directly related to barrel length. That is, the longer the barrel, the greater the velocity delivered by a given load. This is *not always* true, as cases of very small powder capacity, such as the 22 rimfire, can attain their top velocity in 14 or 16 inches of barrel, with longer lengths actually reducing muzzle velocity due to friction. And barrel length has only relative importance in medium size cases such as the 30-06. That is, once you have 20 inches or so of barrel length, you do not gain a large increase, percentage-wise, by increasing it another six

inches. In some chronograph tests of this cartridge, cutting an '06 barrel from 24 to 18 inches, a 25% reduction, loses us only about 8% in velocity.

Such figures vary greatly with caliber size, case capacity, expansion ratios, etc., and so cannot be directly correlated without having various mathematical formulas to work with, or by chronographing. In general, though, as powder capacity goes up, particularly in small or medium calibers, longer barrels are necessary if the highest practicable velocity possible is needed. In other words, no barrel that can reasonably be lugged in the deer woods will cost velocity through friction as in the 22 rimfires. However, once you have 24 or 26 inches, not enough can be gained to counterbalance the clumsiness which would result from a longer tube. Therefore, depending on the particular cartridge involved, optimum results will normally be obtained from a barrel length between 18 and 26 inches—which doubtless explains why most hunting barrels fall into this bracket.

If you have a chronograph to measure velocity and care to experiment, you can start with a long barrel and cut it down an inch at a time, taking readings as you go.

As I see it, shooters long before my time went through all of this. I think I'll just enjoy and benefit from what they learned the hard way.



A FEW OF THE BOY SCOUTS who took part in a late-winter browse cutting outing in the Northwest Division are shown above. Such efforts help deer during bad weather conditions. The Scouts also received instruction in beaver habits and deer dissection.

PGC Photo by R. D. Parlaman

HOLDING AWARDS MADE for their conservation work, below, are Lebanon County Boy Scouts Richard Margut, Donald Malizia, Mike Northey, Samuel Purcell and Donald Eberhart.

PGC Photo by P. A. Hilbert



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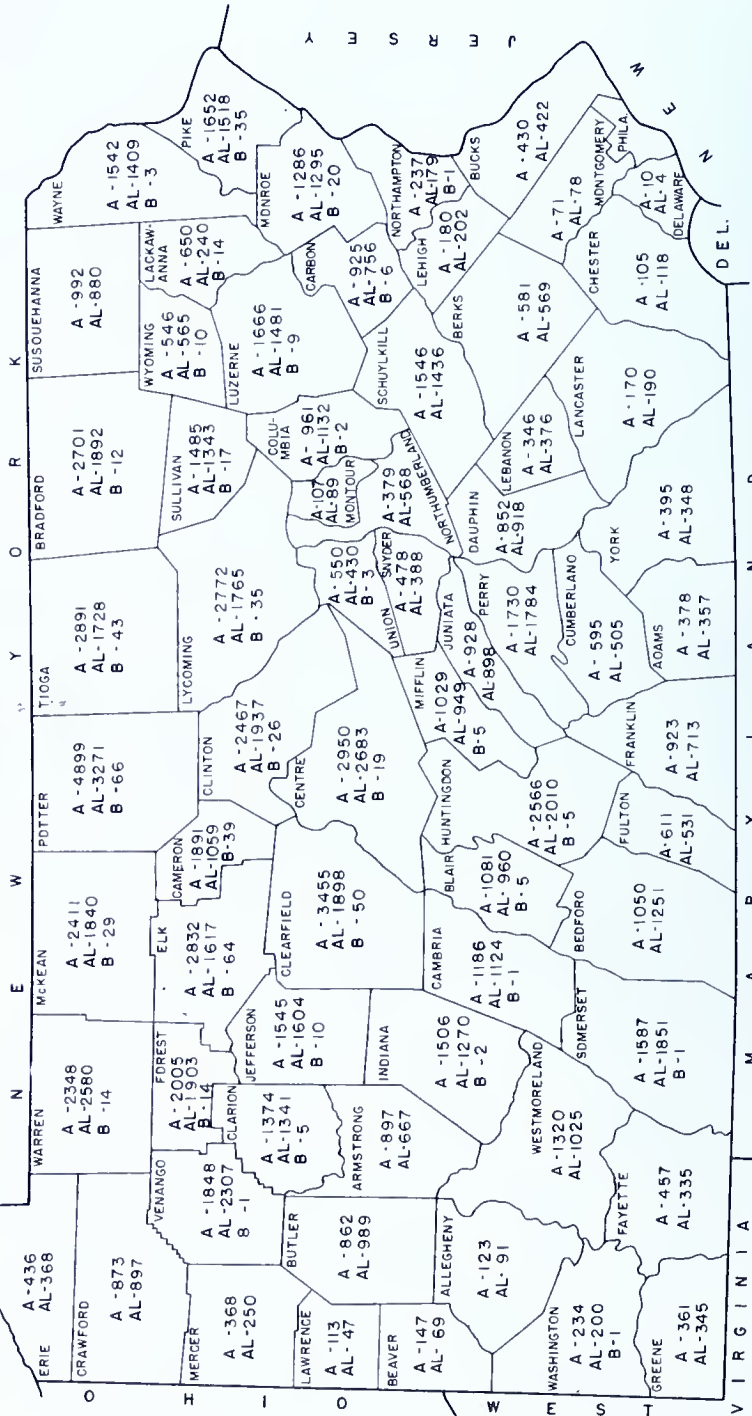
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1967

DEER & BEAR HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG



ANTLERED DEER
(SYMBOL-A)

ANTLERLESS DEER
(SYMBOL-B)

REGULAR SEASON 76,697
COUNTY UNKNOWN 371
ARCHERY SEASON 1,200
TOTAL 78,268

Grand total BEAR kill.....568
(SYMBOL-B)

Grand total DEER kill.....144,415

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COVER PAINTING BY CHUCK RIPPER

June might be called "the month of the deer" in Pennsylvania. This is when most of our fawns are born. Twins are the rule, although triplets are common and quadruplets are known. The annual fawn crop increases the herd by about one-third. Fawns weigh about 6 pounds at birth and arrive fully haired, with their eyes open. Their spotted coat makes excellent camouflage and they seem to cast no scent, which helps protect them from predators. They grow rapidly, and by late fall can be half the size of their parents.

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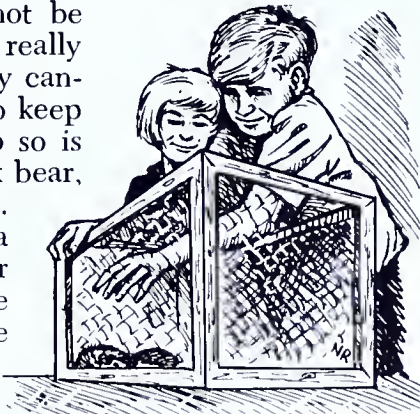
Leave Them in the Woods

“**W**HAT IS SO RARE as a day in June . . .” a poet once asked. The answer might be, “A day in summer when nobody takes home one of nature’s newborn animals.” It’s doubtful if a daylight hour ever passes during this time of year without, somewhere in Pennsylvania, somebody taking home a tiny animal, usually in the belief that its mother has abandoned it and therefore they are doing it a favor. Fawns are the primary “take home” animal, though on occasion black bear cubs are subjected to this treatment. Smaller animals such as rabbits and squirrels are collected by the hundreds, too.

It’s possible to understand why people do this. Small animals—and many species have their young about this time of year—obviously are attractive creatures, and when stumbled upon in the woods or fields are likely to arouse a person’s natural sense of acquisitiveness, after his first sense of awe and delight fades. Then, since they have little fear of humans now, they are comparatively easy to capture. Once we have one of the soft, brown-eyed, cuddly little creatures in our arms, the urge to take it along home can be overpowering.

But what happens to it then? Usually it dies. No matter how well-intentioned the act, the animal loses. Even if it lives, it’s out of its natural element. Why condemn a tiny cottontail to the four tight, drab walls of a cardboard box, with a chipped saucer littered with carrot scrapings, when it could be exploring acres of sweet dew-wet clover or squatting under a twist of grass, luxuriating in the warmth of the afternoon sun? Why imprison a gawky, knobby-kneed fawn in a chicken-wire pen where his sharp hoofs will turn the enclosure into a mire, when it could be wandering through sun-dappled woods, nipping at tender shoots, or maybe just running joyously, up hill and down, with the exuberance that comes from the simple awareness of being able to do something? What can a fawn learn about being a deer, locked up in a pen or coop?

Admittedly, some animals might live for years in captivity, possibly longer than they would in the wilds, where they have to contend with predators, possible food shortages, punishing weather and other factors. But these are natural balances, and each form of wildlife has learned to counteract its own problems through the centuries—or it would not be here at all now. But existing in a cage is not really living, and to protect our wildlife’s rights, as they cannot do for themselves, it has been made illegal to keep most species in captivity in Pennsylvania. To do so is punishable by a \$100 fine for deer, \$200 for black bear, and lesser amounts for other kinds of wildlife. These laws are enforced by the Pennsylvania Game Commission, whose primary concern is for the state’s wildlife and hunters, so the best course for all concerned is to leave those innocent little critters in the woods where they just naturally belong.—*Bob Bell*





What He's Missing!

By Bill Walsh

WHEN the gold bead swung past the fox's nose I squeezed the trigger. As the double barrel leaped with the recoil I lost sight of the target, but an instant later saw him stretched motionless on the fresh-cut alfalfa field. That had been his big mistake, risking the open corner instead of sticking to the uncut vegetation. He'd figured all he had to do was evade the dogs which were bellying madly now as they rounded an arc in the trail and rushed toward the sound of the shot. He hadn't realized I'd be sitting there in the corner of that hayfield . . . waiting.

Well, in order to shoot a fox, one must be at least as smart as the fox and in most cases a bit smarter, my dad always said. I allowed that fox hunting on that day had been a smart move on my part. It had got me outside at a time of the year—mid-June—when most hunters feel the season for shotguns is still some four or five months distant. And the tonic of the medicine was worth the taking.

First-off, if you're a music lover, there was the delightful symphony of Russ Wheeler's brace of bent-for-leather black and tan hounds—disciplined so correctly to the scent of Old Reynard that one could leap over the back of a deer in its bed while the other would slither through the deer's legs as it stood up . . . without pausing in the chase or even looking sideways.

At least that's the way Russ tells it. And one does not doubt the stories a man tells about living dogs. It is also not etiquette to express doubt concerning feats of dogs departed, but private reservations are okay. For among hunting dogs (even pointers)

lifetime achievements wax more spectacular the longer the dog is dead.

At any rate, these dogs possessed voices of beauty if you go for that sort of thing. Having studied music in my youth, I thought the one called Bugle had a French horn tone to his deep-chested utterings, while Maude was definitely a clarinet in its lower register, except that when the trail grew cold or she paused to decipher a puzzle she resembled an asthmatic bassoon.

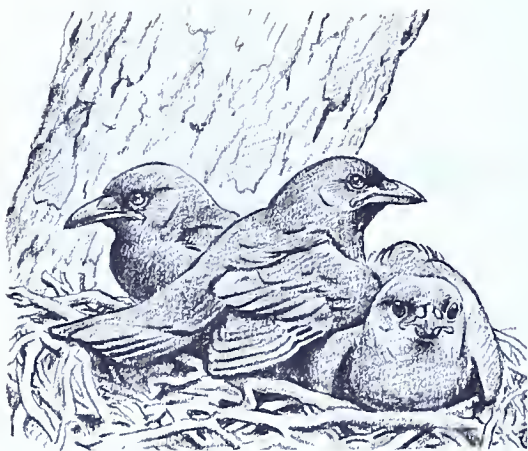
Dogs Arrive

While I pondered these things, the dogs arrived at the scene and wanted to worry the fox. I held them off to see what Russ would do with the carcass and it was during this battle of will between man and dogs I discovered hounds have no reason at such a time. They *wanted* that fox. But Russ arrived shortly—he'd actually followed the hounds which is the way he likes his sport—and they listened to him. I suppose he'd demonstrated at some point in the past that this was the wisest thing for them to do.

Russ took the fox from my hands and inspected it quickly. "A male," he said. "He's probably a little over a year old."

He put leads on the dogs in order to get them into their traveling cages in the back of his truck. I knew that the day's hunting for foxes—even though it was just midmorning—had ended.

"Want to toughen these dogs a little at a time," he said, and I understood. "Now," he added, "it's your turn. Show me those crows you were braggin' about!"



THE YOUNGSTERS are as big as the parents at this stage of the game, and have reached a point where the nest gets some crowded.

"First, what do we do with the fox?" I asked.

"We'll stop down the road and show the farmer what the shootin' was all about. I know him and he knows my truck, so I don't have to pester him every time I show up, but he does like to see what comes off the place."

When we'd parked in the farmer's barnyard, four friendly screaming youngsters descended on the truck and swarmed all over Russ as he stepped out of the cab. All I could hear was a chorus of, "Mister Russ! Mister Russ! Mister Russ!" It was obvious he'd been here before.

He reached into the back of the truck and brought out a six-pack of soft drinks which he handed the oldest youngster, a lad of perhaps ten. The other children danced up and down while Russ and the boy opened a bottle for each. "Mom and Pa went to town," the lad said in answer to a question. Russ showed them the fox, told them to say hello to their parents and we left the youngsters emptying the bottles of pop as fast as they could swallow.

"Y'know," Russ said thoughtfully, as we reentered the highway, "when I first went in there to get acquainted, it was only for the sort of selfish reason of findin' a place to hunt. But now

the whole family looks on me like an uncle . . . and I've got some real friends I wouldn't otherwise have." I knew what he meant.

We dropped down to Lavery's Corners, picked up 6-N to Union City, joined Route 6 through Corry and continued a few more miles down into the Allegheny foothills—the beginning of the kind of crow country I like when the young birds are coming off the nest and the old ones are more than edgy about it.

Actually, the youngsters are as big as the parents at this stage of the game, and have reached a point where the nest gets some crowded.

At the same time they learn to fly they learn to caw. Their attempts at the former are infinitely more successful than the latter. Though their initial flights are short, they gain flying strength and confidence as easily as a just-dried duckling bobs on the water. It's many days, though, before the anemic shadow of a *ca-a-a-w* resembles something other than a Halloween horn from the five and ten cent store.

Best-of-All Times

Since I don't have too many days a year to hunt crows, I pick this month—the best-of-all-times, in my opinion—for my efforts. During this leaving-of-the-nest period, crow parents, crow aunts, crow uncles, the whole crow tribe, in fact, will descend on any ruckus that sounds suspiciously like a fledgling in trouble. The angry "fight" squabble with a good call usually does the trick.

I had explained all this to Russ the while I placed him at the edge of an opening just a short distance from the dirt road we'd found along the edge of Game Lands 143. I'd brought some extra camouflage in the form of a net-type poncho and a broad-rimmed straw hat painted in variegated shades of green and brown.

"Keep your head down while I'm calling and until you hear me say

'Now,' even though you may hear crows overhead. The first time you show them the white of your face they'll leave."

"Suppose I get anxious," he said with a grin. This was his first stab at crows.

"Remember"—I stuck my finger under his nose—"I followed *your* instructions and got a fox because that was your department. Crows are *my* department." He obediently studied the ground. I stationed myself some 20 yards away at an angle where we'd be shooting into the opening where I hoped to bring the crows—and not at each other.

Straw Hat Works

I noted with satisfaction that the straw hat idea (this was the first time I'd tested it) was going to work. It blended into the mixture of jewelweed and aspen where I'd placed him as well as, if not better than, the store-bought poncho.

I'd heard the timorous voices of young crows in this area just a few days before while fishing and hoped they'd be close by. They were, and they traveled with a pair of adults who answered the call so quickly that Russ later said they got there almost before we did. I yelled, "Now!" and threw off my headnet. The bird I'd had my eye on practically somersaulted in midair trying to get out of there and I missed it with the right barrel. The left one brought a puff of black feathers, however. Russ, who doesn't do much wing shooting of this nature (crows *are* different) pumped two shots off . . . and the crows high-tailed it with only one down.

Just out of gun range, however, one of the youngsters demonstrated the kind of foolishness a crow will indulge in only once in awhile, and only when young and uninitiated. It forsook its retreating kin and perched in the top of a birch, sitting there as though confused. The other birds flew on into a thicket of hemlocks, safely out of

danger from us, and settled down, the oldster sending back frantic messages for the laggard to get out of there while the getting was good.

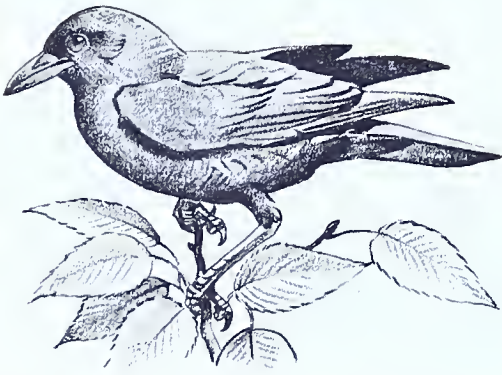
I noticed immediately that this recalcitrant crow was the silent type. Like people, some crows are noisier and chattier than others. Hunters who use live crows as decoys will give half a case of shotshells for a real loud-mouth. But this odd-ball just sat there, adjusting his hold on the limb from time to time, in complete silence.

I looked at Russ. He'd been trying to get my attention. In sign language he suggested that he crawl closer to the straggler and polish him off. I shook my head and motioned him to wait. At a time like this there is a



AFTER A SHORT wait I put the half-pint call to my lips, and with all the feeling of a sick-to-its-stomach calf, called again. . . .

different crow calling strategy to employ. Along with my good wooden adult crow calls I bring a small hard-rubber type when hunting crows at this nest-leaving time of the year. A just-breathed call into one of these junior-sizers will produce a weak, pitiful attempt at cawing that is very close to the genuine article. I got the call out and let go with one of the sickliest, most helpless, come-and-get-me entreaties with which I have ever disturbed the quiet of the forest.



THE FOOLISH YOUNG crow forsook its retreating kin and perched in the top of a birch, as if confused.

Nothing happened.

After a short wait I put the half-pint call to my lips and again, with all the feeling of a sick-to-its-stomach calf, I wheedled and implored the old crow and its flock to return to the scene.

Well, the young ones, to prove how unpredictable they are, didn't come back. But the old baby circled its hesitating offspring and one of the circles took it right over Russ's head. Manfully, he did what was expected of him and I watched the crow drop to earth. I looked over to congratulate Russ but he was swinging again—on the laggard fledgling that had helped lure his parent. It had departed its perch at the sound of Russ's 12-gauge to fly the same route. Russ took him.

The rest of the hunt was much the

same, a crow or two at each place we stopped, although some runs were dry. By midafternoon we'd had it and started home. On the way, after a quiet spell during which we'd apparently both been thinking identical thoughts, we turned toward each other and blurted out, "See what you've been missing!"

Which, aside from sharing some interesting hunting experiences, is the reason for this story. Almost no sportsman has explored all the facets of the multi-sided hunting scene in his backyard. Almost no outdoorsman is without a buddy or acquaintance who'd like to introduce him to the ways of some new sport . . . and in turn be guided along paths not familiar to him. If you have the time, make an effort to broaden your outdoor base this year, especially in the non-game field which will get you outdoors when you normally wouldn't be.

I'd been missing the fun of fox hunting. Russ had been missing the chance of tumbling crows out of midair. You may be missing both, or other outdoor opportunities. Maybe a dabble at trapping would inject a new outdoor outlook into your private world.

If you decide to embrace one of these new sports based on the non-game side of the wildlife neighborhood, do it as an enlargement of your personal recreational activities. Do it for fun . . . and see what you've been missing!

The Real Problem

"Coddling criminals and soft justice increase crime; denials to the contrary have no valid support. Yet, these truths are still lost in the maze of sympathy and leniency heaped upon the criminal. Lane excuses and apologies offered for the lawbreaker are exceeded only by the amount of violence he commits. Meantime, law-abiding people who have a right to expect protection from criminals have this right abused and ignored." — J. Edgar Hoover, *FBI Director*, 1967



THIS IS THE KIND OF CABIN most hunters dream of owning, but unfortunately too often fail to create, for various reasons.

Why Build an Eyesore?

By Joe White

Photos From the Author

CABIN! The word is magic. It conjures up all sorts of dreams and brings to mind pioneer days and the romance of frontier living. It can also mean peace and quiet away from the din of the city and the roar of the mill. It can mean relief from office walls that seem to be closing in a little more each day.

When the time comes to stop dreaming and start planning a cabin, some basic ideas should be considered long before the first yard of earth is moved or the first nail driven. Here are a few basic steps that may help prevent a camp from being an eyesore and a discredit to the natural beauty its owners want to enjoy.

Selection of the Site

How many people neglect to consider this obvious step! And how frequently its omission leads to the placement of a camp in a wet, swampy place that is totally unfit for building.

In general, the site should be in the area where you enjoy spending your leisure time or where you regularly hunt. Don't build it so far from home that you spend two-thirds of a weekend coming and going. Real estate agents can provide information on available sites and area chambers of commerce can help you pick a realtor. Plan to spend plenty of time picking a site that best answers your needs.

When the choice narrows down to the last two or three spots, try camping on each to get the feel of the place. If there is time, try to see the location in different seasons—certainly under different weather conditions. Make a checklist for all the essential items and don't let your initial enthusiasm for a site cloud your judgment or cause you to underestimate some factor that may mean the difference between years of enjoyment or unending regret.

Is there a good water supply from a

spring or well? If so, have the water tested by the county department of health or take a sample in a sterile container to a reputable testing firm for analysis. Check with the county soil and water conservation district for information on well water quality in the site area and the cost of drilling locally if one is needed. The district can also provide detailed information on soils in your site area. This will help you determine the cost of excavation, proper placement of pit toilet or septic tank. (You will find the soil and water conservation district representative under U. S. Department of Agriculture in the telephone directory.)

Check past flood levels of nearby streams that might affect your cabin or access road. It is important to determine maximum snow depth for proper roof design, and you should learn whether local roads are open in winter. Local chambers of commerce can help you determine the proper agencies to contact. Check on

the availability of lease sites on state or federal land before you buy your own place. Finally, make sure when you buy or lease that you know your property rights. You should be sure of unrestricted access; you should know the exact boundaries of your property; and you should have detailed information on local building practices or regulations. A simple review of these matters with a competent attorney will be worth a great deal in peace of mind in the future.

Basic Planning

Don't rush in. Take time to plan your cabin carefully. Much of the fun of building a cabin is in the planning. Take time to consult designs that have been prepared by experts in this field. Some good information sources are provided at the end of this article. Local builders can be of great help and can save you a lot of headaches if you will only ask for advice before mistakes are made.

REMAINS OF BUS CAN PROVIDE shelter in deer season, but do nothing to improve the scenic attractions of an area, author feels.



Work out a floor plan that suits your needs. Position the cabin so there is adequate room to park your car, trailer or camper. If you have a wooded site, choose a position that will give a combination of shade and sun, not perpetual darkness and dampness back under a hemlock grove. To get some idea of the size cabin you need, mark off the proposed dimensions outdoors some Sunday and get a good look at the actual room your cabin will provide. Better still, make a scale model. Put the power lines (if any) underground if possible. Take advantage of the natural contours of the site and incorporate them into the plan if possible. Don't let a bulldozer rip out any big trees, rock outcroppings or stands of wildflowers if you can possibly save them. Design the roof to take the maximum snow load in the area. Don't underestimate this or you'll be mighty sorry someday to find the roof and a ton of snow on the floor!

Selection of Materials

The advice of an architect, a good builder, plus the plans from a cabin "catalog" will help a great deal. If you intend to do the building yourself, make sure you don't bite off more than you can chew. Plenty of good-looking prefabricated buildings can be put together easily. One of these will be up and in use before three courses of blocks are laid by the average weekend builder. Plan for plenty of ventilation and put the foundation footer well below the frost line.

Some plans call for a simple plywood exterior on a concrete slab. If carefully framed, these can provide long-lasting buildings. They look best with simple dark stains or brown paint, so they blend in with the forest. The outside walls can also be shingled or sheathed in wood or metal siding. You do not need to use first-grade lumber all the way through the structure, but make sure the lumber you get is seasoned and sound to avoid later problems. Inexpensive rough-



A SOLID, COMFORTABLE camp, but it would be more attractive if painted to blend into background, White says.

sawed slabs from local sawmills can result in a handsome weathered finish after a couple of seasons. Random cut slabs make an attractive rustic exterior. The help of a retired builder, carpenter or mason in the role of advisor would be worth plenty in the finished job. Don't forget that power tools will require a power line hookup or a portable generator.

Finishing and Maintenance

Man's intrusion in the wilds is seldom an improvement, even at its best in the form of tasteful structures. On the contrary, man's arrival often means ugliness and ruin, eventually, unless good taste and careful supervision are combined. Nothing is more revolting than to drive through some beautiful backwoods country, turn a bend and see the rusting hulk of an old bus or trailer serving as a "temporary" camp. Such eyesores are totally foreign to the woods. All too frequently they are painted vivid colors that make plain rust look inviting by comparison.

Given the construction of a basically well-designed camp cabin, serious thought should be given to finish color. White, pastels, and nightmare combinations ordinarily do not belong



IMMOVABLE BUS detracts from natural beauty of northern Pennsylvania setting—a pet peeve of the author.

in a woodland setting. Stick to dark earth colors—browns, reds, and grays. Wood exteriors can be finished in a number of attractive stains that will provide a pleasing appearance plus protection from insect damage and decay. Some prefab log buildings come complete with staining materials. If paint is to be used, a basic barn red will look acceptable, especially after it weathers for a season. Green is a color to be chosen with great care because too much of it can make the camp look like a highway equipment building. A good general rule is to avoid it. The essential goal is to choose a color that blends with the surrounding area.

Stone exteriors blend pleasantly with the landscape, especially if local stone is used. Avoid artificial stone or brick exterior coverings. Block structures are best left unpainted, I feel. But if some exterior coating is desired, it is better to stick with those same dark earth colors, choosing shades that match the earth and rock colors in the vicinity of the campsite.

Finishing touches include the interior as well, but if a camp is carefully planned on the outside, it goes without saying that the furniture,

equipment and layout will be chosen with equal care. Here the scale model will help immeasurably.

After the camp is situated, take one last long and hard look at the appearance. Is an LP gas tank stuck right out in front? Is there an attractive, carefully constructed sign to mark your camp for visitors, or is it a last-minute amateur job that looks like a third-grade poster? Take the time to buy or borrow some letter templates; design the sign, then rout the letters, or cut them out on a jigsaw and glue them to the signboard. Finish the sign in the same color as the exterior of the camp, and hang it carefully so that it complements the setting.

Some camps are just plain eyesores on their own. I think old buses are worst, but right behind them are the tarpaper shacks and the run-down farmhouses that lean and totter a little more each year, surrounded with tin can heaps, abandoned furniture, garish signs, etc.

No camp or cabin is going to make a site look better than it did when nature was taking care of it on her own. The least we can do is make our human intrusion on nature as tasteful as possible.

CARELESSLY APPLIED roofing tar does nothing to help appearance of this trailer parked in deer country.





EVERYONE'S FIRST CHOICE—a sturdy log cabin that fits perfectly into its woodland setting, is suitable for year-round use.

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Book Review . . .

Being Your Own Wilderness Doctor

Dr. E. Russel Kodet and Bradford Angier have produced an outdoorsman's emergency manual in *Being Your Own Wilderness Doctor*. It is a reference for those who venture into the back regions where professional medical help is not readily available to treat health problems that suddenly arise. Contents run the gamut from cuts and fractures to kidney stones and heat strokes. A handy reference for the outdoorsman. (Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 1968, 127 pp., \$3.95.)



Don't Forget Your Dog

By Robert F. Cubbins

MOST OF US neglect our hunting dogs during the off-season more than we care to admit. For at least six months of the year, they're relegated to their kennels, where they get little exercise, if any, wax fat and lazy, and sustain enough insect bites to subdue the average human. Even if you keep your dog indoors, chances are you devote comparatively little time to his needs when he isn't drumming up game for the pot.

Every fall I hear the same laments from dog owners: "Can't understand it! My dog's pooped before half the morning's gone. Look at him! Has to lie down in a pothole every two minutes. Lost his stamina!" This pronouncement is invariably followed by a string of shouts exhorting the dog to get a move on.

I particularly enjoy this one: "He used to be a heck of a rabbit hound, but now? He can't seem to jump a field mouse. No zip! Guess he's gettin' old before his time."

I'm always tempted to ask, "How do you think you'd work on a warm fall day if you hadn't had any exercise in six months, had put on enough weight to sink a ship, and were asked to run hard for six or seven hours at a clip?"

More often than not, the temptation is overpowering, and I alienate some of my hunting brethren who like to think of themselves as practical, compassionate men. They can't abide any other image of themselves, even for the sake of their dogs, for which they always profess profound and enduring love.

A hunting dog, or for that matter any kind of dog, is a full-time responsibility, and not one that should be taken lightly. Most hunters love their

dogs and lavish all kinds of affection on them when the dogs are earning their keep in the field. But when the shotguns are cleaned, cased, stored away and forgotten until the next fall, the hunting dog is all too often stored away and forgotten, too. The results of such storage have already been seen.

As owners of hunting dogs, what can we do during the off-season to keep them healthier and happier and in top condition for that all-important opening date?

First on List

First on the list is kenneling. Where do you keep your dog? Is he in an enclosure that permits him to walk about a bit and loosen up his joints? Have you provided an area in which he can soak up some sun, which is so beneficial to his coat and his overall well-being? Does he also have a retreat to a shady spot in his kennel so that he won't have to dig holes under his coop to avoid being roasted in July and August when you're reclining in front of your television set in an air-conditioned living room?

Is his coop well-ventilated, water-tight, clean? Periodic cleanings during which you sweep or vacuum out the coop are essential if you would have your dog free from fleas, summer eczema, and myriad other skin conditions which can wreak havoc on his health. It's a good idea each spring to give the coop a thorough housecleaning and paint both the inside and the outside.

Have you provided a sunning deck on which your dog can lie? This doesn't have to be anything more than a sheet of plywood set on a few build-

ing blocks, but it will do much to prevent the ills which sooner or later attend the dog that has been forced to lie on damp ground. Too, it will in many cases obviate infestation from hookworm, and other intestinal parasites.

Of course, it goes without saying that the kennel should be cleaned daily. Excrement is a breeding ground for more maladies than veterinarians care to think about, and the man who doesn't wield a rake and a shovel with fastidious care is inviting trouble.

Incidentally, it is occasionally a good idea to saturate the soil of your kennel area with a strong saline solution. This treatment will do wonders to cut down all kinds of parasitic invasion.

Condition of Coat

And while we're on the subject of cleanliness, let's talk a moment about the condition of your dog's coat. If you don't have a good dog brush and a fine-toothed comb, hop in the car right now and head for your pet shop. I take a little time each week to brush and comb my setter's coat until the dead hair which accumulates in summer months is virtually gone.

Then I comb him out, working hard on the feathers of his legs and tail until I've pulled out all the snarls. Dry skin as well as hair will be uprooted by this attention, and your dog may well be freed from the frenzied scratching we so often see in the summertime. And he will be *much* cleaner. Frequently, after such grooming, my wife and I take our dog to the lake with us, where he completes the job with a welcome dip.

One more thing. A careful examination of the soft skin areas on your dog will almost always reveal numerous mosquito bites. These can be quite painful and cause the dog to scratch and bite himself until he has broken open the little pustules which form. Scurfy patches of brown skin may cover the insides of his legs and mat down the hair. Brush them off

gently and apply a little calamine lotion or similar skin preparation. Don't be afraid to use a good commercial spray in the kennel area, but keep it away from food and water.

This is the next item on the list. During the hunting season, your dog's ribs will probably begin to show, and his appetite will increase. If you work him often, he may become so thin that you'll be concerned about his health and ply him with all kinds of tasty tidbits to fatten him up. Like a serviceman on hard duty, he'll need extra rations and should get them. He's burning a lot of calories.

But spring and summer months are something else. Unless you continue to offer him comparable periods of hard exercise, the quantities of food you've been shoveling into him will be converted to fat, and it's the old story: fat is much easier to put on than it is to take off.

Gradually, then, after the close of the hunting season, diminish the quantity of food and watch your dog carefully. Supplement his diet with fewer carbohydrates and give him a taste of tomatoes and other vegetables a couple of times a week. Mix them in with his ordinary fare. Simply use good sense in the amount of food that you prepare for him. If he looks a little too thin, beef up his rations a bit, but continue to watch him. Better to feed him so that a little edge remains on his appetite. When it is no longer possible for you to see his ribs, level off on the food and keep him there, and you won't have to argue with him to move him out of that pot-hole in the fall. He'll whip himself into running shape mighty fast.

Water! Dogs need a good deal of *fresh* water daily. I make a point of replenishing my dog's supply twice a day, usually in the morning and again in the early evening. And he drinks it —all of it. Consider the amount of fluid which you consume in hot weather and the temperature at which you enjoy it. Your dog doesn't relish

warm water any more than you do. Nor does he enjoy drinking it out of a pail that is green with slime, replete with croutons of caterpillars and birch catkins. True, he'll drink from any old puddle in the field, but that's necessity, not preference. How much time does it take to provide your field companion with good, clean, cool water? Five minutes? In five minutes he'll crawl out of his coop too footsore to walk and work his tail off for you.

You should scour his food and water containers often. Try to locate them in a permanent spot in the kennel, preferably off the ground so that he can't foul them. Flies like nothing better than a picnic on the little morsels of food your dog may leave in his dish.

Exercise Important

What about exercise? Often on a hot summer morning as I'm loading rods and reels and boots and gosh-knows-what-else into my car, I glance at my setter's kennel and think, "Gee, old buddy, I sure wish I could take you with me." He stands in the corner with his nose pressed against the wire, his tail wagging furiously, and his paw on the latch of the gate. He whines to beat the band, not sorrowful, reproachful whines, but the kind that say, "Aw, c'mon and take me with you. . . . Please?" He superintends every move I make . . . even knows where I put the sandwiches.

One day I succumbed—I couldn't take his expression as I started down the driveway. His tail drooped, his head hung; he was the picture of abject sorrow. I put him into the car and took him fishing with me. After he'd spooked all the trout in three good pools, carried off a fly box I'd left on the bank, and eaten some hot dogs that picnickers were ready to cook, I decided I had to make a different kind of compromise. I promised to give him a good run each evening after I'd returned from fishing.

It worked out pretty well. It was clean the fish (sometimes), clean up



IF YOUR DOG looks a little thin, beef up his rations but continue to watch him. Avoid overfeeding.

the sink, eat dinner, and take the old boy for a two-hour hike. By the way he wriggled and jumped and all but tore my ears off in the process, I knew the evening exercise period meant more to him than all the steak bones he's buried in the yard. Summer had become something more to him than just another hot day to lie on his bench, bite at mosquitoes, and listen to the droning locusts.

Granted, none of us has the time to devote two hours to walking the dog each evening, but we certainly can find enough to let him out of his kennel (which really is the best place for a valuable dog) and let him burn up some of the energy that he keeps in his battery for fall.

Try, if you can, to give him some exercise each day, if only for fifteen minutes. Let him get out and stretch his legs, bound about the yard, and generally live it up a bit. And once or twice a week, weather and time permitting, take him on an extended jaunt in some area where he can't possibly disturb game or get into trouble with motorists who don't know he's your best pal.



SCOTIA, ONCE A BOOMING mining town, loses its battle with the wilderness, as forest slowly covers the town's remains.

Last Home of Pennsylvania's Indians . . .

THE BARRENS

By J. David Truby

Photos From the Author

MOST READERS would expect that a tangled, 50,000-acre wilderness which is one of the state's better hunting areas would also have the historical distinction of being one of the last refuges for the harried Indians of the 19th Century. The kicker is that this tangled terrain of scrub oak, pine, and thick undergrowth is located on the very outskirts of State College, home of Penn State, one of the nation's largest universities.

This mini-wilderness, thick with game the year 'round and with hunters during the various seasons, was one of the last retreats east of the Allegheny Mountains for the Shawnee Indians. Settlers in the area reported Indians living in this area, called The

Barrens, as late as the 1830s. The excellent shelter and abundance of game undoubtedly were important factors in this usage.

Today, of course, The Barrens is popular with sportsmen who hunt with rifle, bow, camera, or binoculars. Deer, turkey, pheasant, rabbit, fox, grouse, and an occasional bear are seen in this natural setting.

The Barrens got its name from the Indians. Early legends tell of a "barren land without corn, having many trees." A British land survey made in 1770 mentions the "great pine barrens" near Buffalo Run. Another report, issued in 1794, refers to the entire area west of the iron furnaces near Mt. Nittany simply as "the barrens."



THESE HUGE PITS were scooped into earth during iron ore operations.



PART OF TOWER used during mining days in The Barrens.

This name is somewhat unjust. It is true that the water table is nearly nonexistent, and the sandy soil, often mixed with clay, is unsuitable for agriculture. But the area does, or did, support excellent forestation. Pioneer diaries mention mighty oak trees, towering pines, and nut-laden chestnut trees in that "Indian wilderness." Most of this wood was cut for the iron furnaces that thrived on wood fires in the late 1700s and early 1800s. So, perhaps man made the name Barrens fit, for nature surely did not.

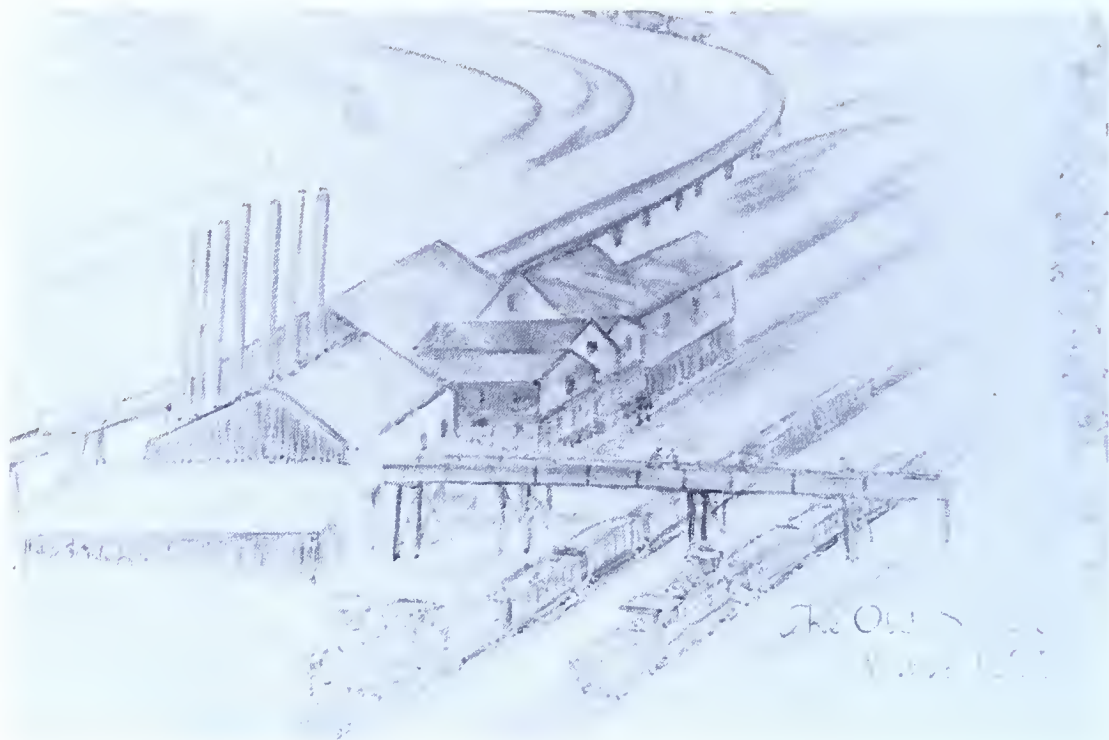
The first known inhabitants of the area were the Shawnee Indians, first reported by historians as arriving in the Nittany Valley in the late 1680s. Historians think the entire central Pennsylvania area had been under the Muncy Tribe of the Delaware Nation until that time. The land was purchased from the Shawnees in two transactions, one made in 1754, the other in 1768. In 1800, Centre County was created and The Barrens became part of that county. As mentioned,

Indians continued to live in The Barrens area for some years after.

First White Settler

The first white settler in The Barrens was Abraham Elder, who built a cabin in what is now Half Moon Township in 1784. Elder's son reports seeing Indians regularly in the wilderness, but they seemed willing to share in the bounty of game that kept everyone's larder filled. Two Hartsock families moved into the area in 1788, and, in fact, the one Hartsock home became a haven for runaway slaves on the "Underground Railroad" to Canada during the Civil War period.

These early settlers were followed by other pioneers, so that small settlements began to grow in the fertile Nittany Valley surrounding The Barrens. However, the area continued as a wilderness, with few families seeking its solitude, except for brief hunting trips into its tangled acres of second growth and stunted scrub trees. Then iron ore was discovered in



DURING HEIGHT OF OPERATIONS in 1880s, the old Scotia mine appeared like this, according to artist Milton Osborne.

quantity, and a man named Andrew Carnegie planned to turn The Barrens into a city.

It began in 1880, when Carnegie, a wealthy Scot who had come to this country penniless, purchased the land and ore rights to The Barrens from the Thompson Steel Company for \$90,000. The Thompson Company had developed the land from another pioneer, Moses Thompson.

Carnegie moved workers from his Pittsburgh plants, and literally built a mining town in the wilds of The Barrens.

Site Surveyed in 1875

Although small amounts of ore had been mined since 1890, nothing of consequence had been attempted until the Carnegie venture. He first surveyed the site in 1875, and built an experimental furnace a few miles south of The Barrens to test his theories. After his purchase of the area in 1880, he personally spent the next two years supervising construction of his town,

which he called Scotia, which means "Little Scotland." His men built a general store, billiard parlor, church and drugstore, plus the mining buildings themselves. As operations began, small houses were built for the miners and their families. A Scotia post office was opened, and in 1895 the town boasted 400 families.

Between 1882 and 1895, the Scotia operation was the principal source of iron ore in Pennsylvania. It is estimated that 1,800,000 tons of ore were taken from the land in those years. The families were fairly self-sufficient, thriving on home gardens, plus the abundance of meat that the miners found in the wilderness surrounding Scotia. In fact, train crews carrying the ore from Scotia to the railroad spur at Pennsylvania Furnace used to keep their Winchesters handy to pot at game along the track a la the trainmen of the Old West.

When Carnegie came up from Pittsburgh, big doings hit the community, including fireworks, a band concert,

and a community party. Once, in fact, the old Scotsman sponsored a hunt in which the winning entry was a 1000-pound bull elk, with the winning miner claiming to have shot it near what is now Circleville. That elk were not common to the area was forgotten that night, the winner kept his prize, and the trophy remains a mystery.

Carnegie Sells Land

In 1899, Carnegie sold the land to the Bellefonte Furnace Company. A better grade of ore was discovered in Minnesota and it could be transported more cheaply to Pittsburgh than the Scotia ore. By 1910, only 50 families remained in Scotia, and the mines were shut down the following year. The town was torn down and the railroad track torn up. The old railroad bed remains as the main road through the area, and was used by the remaining settlers and their families who chose to remain in the great wilderness on the edge of civilization, living off the land, and gradually fading into the small settlements or farmlands.

Today, only a few homes dot the edges of the great woods, now criss-crossed with the old roadbed, a few trails, fire-breaks, some grown-over ore pits, and a few foundations to mark the memory of Andrew Carnegie's town. Like an organism determined to cover its wounds, the wilderness has closed over the man-made gouges in the land, and returned to the control of the vegetation and wildlife. About the only thing missing now are the old Shawnees, stalking the game always plentiful in The Barrens.

But, today's Indian is the Pennsylvania sportsman . . . *almost* at home in The Barrens.

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In addition, the author had conversations with Mrs. *Masie* C. Kirkpatrick, a former resident of Scotia, now living in State College. This fine lady was an excellent source of firsthand information, and her cooperation is deeply appreciated.

Problem: Crime

"We can strip the law-abiding citizen of every sort of weapon he may use for sport and defense; we can place him naked and quivering, under the doubtful protection of an overworked, underpaid and numerically too small constabulary, presently incapable of coping with the forces of crime; but we will not stop crime, nor deter criminals from their evil ways."—U. S. Rep. John D. Dingell





HAWKS

*across
Pennsylvania*

By Ron Jenkins

Red-tailed Hawk

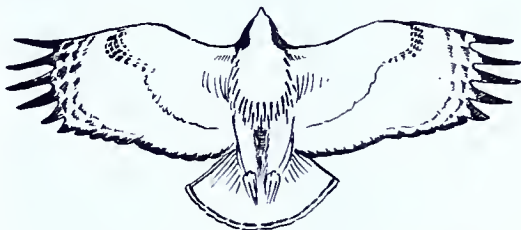
(Buteo jamaicensis)

YOUR first hawk sighting could very well have been this large, brownish, soaring bird so common throughout Pennsylvania. Redtails often perch on exposed branches of large trees with commanding views of the countryside, from where they scan the surrounding fields for prey.

Despite their large size—about 20" length and 50" wingspread—redtails most frequently prey upon mice and other small rodents which make up fully 90 percent of their diet during the warmer months. True, an occasional rabbit or squirrel falls victim to this great hawk, but usually only when regular prey becomes scarce or mouse runs are crusted over with snow.

Red-tailed hawks are sometimes blamed by farmers for the loss of chickens or other domestic fowl, when probably the deed was done by a cousin—the Cooper's or goshawk—or foxes and opossums. Accipiters (Cooper's and goshawk) possess more dash than the larger buteos. They hit and run, leaving the slower, less wary hawks to take the blame.

Actually, the farmer has few friends that do him as much good as a red-tailed hawk. When you consider that a pair of mice under ideal conditions can produce as many as 130 offspring a year, and these offspring are able to breed when only ten weeks old, you will realize the true value of the winged predators.



This buteo attains his beautiful red tail (actually a burnt orange) after his first year of life. Until that time immature and juvenile red-shouldered and red-tailed hawks resemble each other. Broad-winged hawks are similar also, but their smaller size is apparent to the experienced watcher.

Redtails nest fairly high, sometimes as much as 90 feet, in stick nests. An average brood is two young, which are ready to leave the nest in late May or early June.

Perhaps the greatest weakness of the redtail is his habit of perching exposed near farmlands, where unknowing gunners take their toll. Actually, mice are often responsible for raiding quail nests when their numbers increase out of normal proportion. Redtails are an effective check on these rodent populations, so protect this species and encourage others to do so. A good red-tailed hawk population helps keep your hunting area in balance. They're a joy to watch with their mastery of the air currents—and, will reward you often, if you confine your hawk shooting to the use of a camera.

Beeline to a Honey Tree?

By J. Almus Russell



Photo by Don Shiner

BEE HUNTER studies hollow tree which housed bees all winter. Bees are swarming on sunny day before seeking out new hive.

BEE HUNTING is an all-American sport. Bee hunters live dangerously. Bee prospecting yields delicious food, gives strenuous exercise, and provides plenty of excitement. The honey tree is as native as Indians, lacrosse, or whitewater canoeing.

Often nature's treasure trove isn't easily found. The sportsman reaches home to get the proper bee hunting outfit only to find too late that he can't locate the bee tree. Or maybe angry

bees have scared him away, stinging him soundly. Perhaps the actual know-how is lacking.

Bees have heeded the call of the wild since the earliest settlers arrived. Bees were imported from England to Virginia in 1622; to New England in 1638. Hives often swarmed and then departed for hollow trees in nearby forests. Later, they followed the pioneers West, giving them much-needed sweetening.

A professional bee hunter blazed his mark on every tree in which he detected a hive. He alone had the privilege of collecting the golden hoard. The law against poachers was strict. Those who broke the rule were severely punished.

In an army encampment of nearly a century ago, a soldier who found honey was allowed to keep one-fourth of it. Three-fourths to the company.

As the bee hunter was usually not a bee man, he had little desire to save the colony. Hence, he cut down the tree, driving the bees away by smoking them out. This procedure was done in several ways. Perhaps the smudge rose from a pan of smoldering rotten wood, a roll of smoking rags, or from a long tobacco pipe. Or dried fungi or well-cured red sumac spikes were lighted in the bee-smoker. An oil smudge would kill the bees.

In pod auger days this honey was loaded into small casks and sold in the city for about 25 cents a gallon. One honey tree might furnish a dozen gallons or more. With daily wages at 10 to 15 cents, this was a profitable sideline. In one forested area, 16 beehives were found in a grove of live hollow oak trees within half a square mile.

Hives of domestic bees were some-

times placed on carts in order "to give the bees the pasture," and moved from one section to another according to the blossoming time. Boats also carried hives northward, following the spring.

In May or June, bee scouts often were seen inspecting empty hives in apiaries or hollow trees or disused buildings. They had been sent out from some hive that was preparing to swarm. Then they returned to the mother hive to report their findings.

An early Pennsylvania method of locating bee trees was for the searchers to take a box of diluted honey to a bee glade. Any group of flowers, in fact, provides one. Then they opened the bait to attract the bees. Bees collected and loaded themselves with honey before their release. Observers had trained their sight so that it could follow the bees for hundreds of yards. By doing this, they determined the beeline of the homing bee.

The box was then moved to another point where new observations were taken. The process might be repeated a third and a fourth time. Then the converging lines were followed until they intersected near the bee tree.

Iron Cage Used

Another Keystone State method was somewhat similar. The bee hunter covered a saucer with honey, then let several bees collect on it. Next he covered the dish with an iron cage. Opening a small door in the cage, he let one honey-gorged bee escape and rise in the air. It made a series of ever-larger half circles or "figure eights," before speeding away. This was followed by the release of two or more bees. The hunter noted their course until the true beeline was established.

Present day bee hunting requirements cost nothing. They are simple and easy to follow. First, get a wooden cigar box. With a fine-tooth saw cut the lid in half, hinging each half to the side of the box. Cut a small "window" in each of the two lids. Cover



BEE SWARM, which may number 50,000, surrounds its queen preparatory to making a new colony. Swarming is caused by crowded and overheated hive.

these with a flap of opaque cloth so that light may be let in or shut out.

Next, fit in a sliding partition at the point where the two lids meet. Now when the box is closed, it is divided into two sections. By making use of the small "windows" in the lids and the movable partition, an imprisoned bee may be moved back and forth as desired. The "windows" give the observer a chance to find what the insect is doing at any particular time.

Now the honey tree hunt begins. First, lift the cover of one of the box compartments. Then hold the box on the palm of one hand in such a position that the first finger of the same hand rests against the projecting edge of the partially open cover. Hold the box opening beneath a bee, using canvas gloves to avoid stinging. With the other hand, slap the bee gently down in one of the box openings. Close the cover over the angry bee.

Place a small dish of honey at the end of the other compartment. Then raise the flap above the window of the bait chamber to let in the light. The bee enters. Give the prisoner time enough to calm down and gorge itself

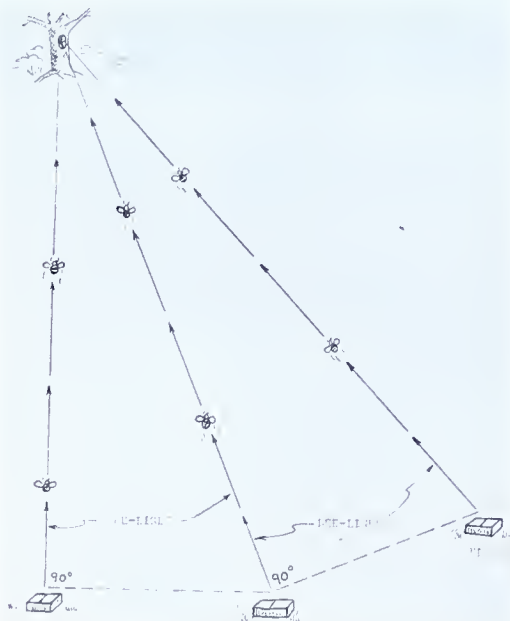
with honey. The bee box should now be moved into an open clearing so that the bee, when let out, can be seen clearly against the sky.

Raise the box lid and let the insect fly away. Then lie down six or eight yards from the box. If you have a companion, station him at a distance but on the edge of the same observation circle.

In its preliminary flight, the bee looks over the territory, making ever wider swings through the air. Then it starts weaving into a true beeline toward its home hive. If conditions are right, it will fly fully honey-loaded at about 440 yards a minute. Bee authorities state that the bee spends two minutes unloading in the hive, then returns to the bait at the same rate.

For example, if the bee returns to the honey tree in 10 minutes, the colony is approximately one mile away. This makes allowance for two minutes in the hive and four minutes' flight each way.

METHOD OF FINDING bee tree is diagrammed below. Captured bees are released from different places whose location and relation to each other are known; this leads to tree.



BEEES CLUSTER around common box hive made of boards—a setup that makes it easy to gather honey.

A companion at another station with a second bee box will help establish a second beeline by following the same tactics. The point where the two lines meet will locate the bee tree, approximately. The bee box should be carried to this point if further establishment of the exact tree is needed.

While the imprisoned bees are feeding on the saucer of honey, it pays to daub their abdomens with spots of bright colors, using a very fine brush. Use one particular color for each bee. Don't overdo the coloring because the wings may otherwise become paint-clogged. By this method, a single bee is easily detected. Within an hour or less a dozen marked bees will give an accurate idea of the hive location. A continuous line of bees may be spotted entering and leaving the box, thereby establishing an exact beeline.

Present-day bee hunting may also be done by geometry. With a compass and protractor the line shown by the bee is drawn on a topographic map. The distance from the bee box to the honey tree is sketched.

When several bees have returned from the hive, they are recaptured, moved in the box a known distance but at a right angle to the line of flight. Then the whole operation of releasing and timing the bees to estab-

lish a line of flight is repeated.

Two known angles and three measured sides of a triangle have now been determined. When this figure is superimposed and scaled and projected on a map, the apex should fall precisely on the hive location.

Now the honey is found. The tree is initialed or otherwise marked to establish the finder's claim, and the owner is consulted in order to establish the value of the tree. If he agrees to permit it, the tree is then felled, preferably with the bee opening landing face up so that it can easily be reached with the smoker.*

Smoker, bee veil, canvas gloves, and well-tied sleeve cuffs and trouser legs are a must. In addition, a chain- or crosscut saw, wedges, sledge hammer and tin dipper are other necessities when 50,000 bees may be alerted for action.

Measure the depth of the honey from the top to the bottom of the trunk as the smoker man gives the sawyer constant protection. Then cut the log from the tree proper, splitting it lengthwise with the wedges. The two log halves, when opened up, expose the honey — American golden fleece.

Yet this golden hoard is a gamble. One honey tree may contain 300-400 pounds; another perhaps a quart.

**It is illegal to cut down trees on State Game Lands or State Forest Land.*

Large bee trees are therefore the best bet. Big swarms are a sure thing. White honey is the most delicious and valuable.

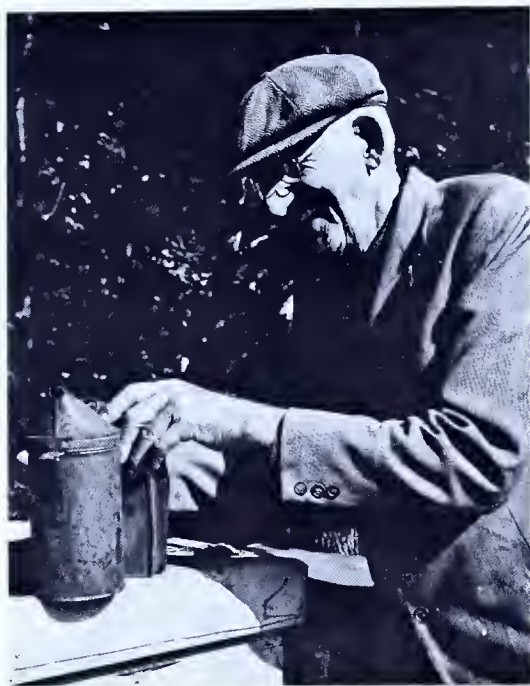


Photo by Don Shiner

HONEY GATHERER lights smoker, a vegetable smudge that drives out bees without harming them.

The hunt, however, is the sport. The chase more important than the goal. The prize, honey. The reward—honey on buckwheat cakes, honey on hot biscuits, and honey drizzled over homemade ice cream. . . .

Hunters in Conservation

For many years the hunter and fisherman have financed conservation activities not directly benefiting hunting and fishing. Take away the sports of angling and gunning, and you wipe out funds now supporting stream and watershed protection, pollution control, and game research and management activities vital to many species of wildlife never taken for sport.—William E. Towell, in *"Shooting Is Conservation, Too!"*



NED SMITH



By NED SMITH

June brings a frazzled fox, a bald-headed grouse, a turkey vulture's "nest" with two king-size eggs, and a hungry whip-poorwill in the gloaming . . .

IN JUNE there seems to be no end of wild flowers and shrubs, song and game birds, amphibians, and insect hordes. Life is here in abundance, and it is easy to look upon it as inexhaustible and indestructible. However, for all their toughness most wild things live a pretty precarious existence, surviving only because of a delicate balance between sustaining and controlling forces. A wild mushroom, for example, might expel a million or more spores, but only a few will find the exact conditions they require to develop into mycelium, and the mycelium to produce more mushrooms. The slightest shift in balance — a drought, a dying tree that lets in too much light, a grazing flock of sheep, competition from nearby weeds—can eliminate the mushrooms.

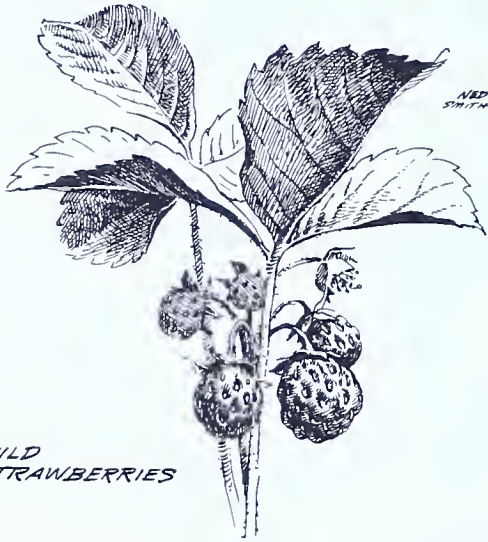
Many of these changing conditions, such as plant succession, climatic changes, and soil erosion, are nature's own. But man has caused even more rapid changes and continues to do so. Whoever thinks the destruction of natural resources ended with the buffalo slaughter and the ravishment of our Eastern forests is neither informed nor observant. Certainly our compulsion to place as much of America as

possible beneath concrete has resulted in the most cataclysmic destruction of soil, forests, wildlife, streams and scenery ever witnessed in this traditionally ravaged land.

Other changes, however, are so insidious that the general public is unaware of them, and in many cases the damage is unintentional or incidental. For instance, some of our grandest redwood trees are threatened, not by fires, bulldozers, or chain saws, but by their innumerable human visitors whose feet pack down the soil so firmly around their buttressed bases that precious rain water runs off instead of soaking in. The rare California condor is endangered as much by the disturbing presence of humans near nesting sites as by indiscriminate shooting. Certain types of pesticides developed during and after World War II have been insidiously poisoning innumerable forms of wildlife, not only by outright killing but in many species by inhibiting their reproductive processes.

Part of the solution is to handle outdoor America with loving care. We who make our living observing nature and recording it with words and pictures are continually faced with this

responsibility. Bird photography is a good example. In season I locate dozens of nests of all kinds that should give me splendid opportunities to photograph the parent birds. But there's a hitch. Some birds will tolerate any indignity and never budge from their precious eggs. Others will permit a



WILD
STRAWBERRIES

few quick photos, but only in the late stages of incubation. Still others will abandon their eggs at the first sign of a human intruder. Too frequent visits to a nest and the loud objections voiced by the parent birds will attract predators. Even the hurried exit of a frightened bird can dash her fragile eggs to the ground. It is both unethical and illegal to ignore these hazards, and many a valuable picture must remain unrecorded. But we don't really mind. The day is past, thank Heaven, when wild things were thought of as "belonging to no one" and therefore expendable.

June 2—For all his brilliant beauty the yellow-breasted chat is somewhat of a clown. He delights in keeping out of sight, slipping through his tangled haunts like a shadow. When he does cross from one thicket to another he does so with a tantalizing, but awkward, flourish, his tail flopping loosely as though attached by a string.

Not only is he a clever mimic, but

his song has an uncanny ventriloquial quality. This afternoon I was sitting quietly on a sunny hillside when a chat mounted a blackberry cane less than twenty feet away and began to sing. His repertoire consisted of only three different notes tirelessly repeated in the same sequence. All were borrowed from other birds—the alarm note of the robin, the house sparrow's chip, and the caw of the crow. The quality of each was perfect, but the crow's caw was the most amazing. So cleverly was it muted that I listened for some time before realizing that it came from the chat, and not from a crow half a mile across the valley.

June 3—Don C. has been telling me about the abundant fox sign on Second Mountain where he's been taking out timber, so I went with him this morning to see if we could find a den. There were feathers of barnyard fowl everywhere, but so scattered they offered no clues.

In the midst of our search on the rocky mountainside we were suddenly astonished by a deafening outburst of shrieks, snarls, and squalls coming from the deep hollow below us. Sprinting down the mountainside, I arrived too late to see what was going on, but heard an animal of some sort running up the opposite side of the hollow. A few seconds later Don joined me, followed by the driver of a lumber truck. The latter said a gray fox had dashed in front of his truck, heading in the direction of the uproar.

As we talked, Don's attention was attracted to something in a small tree. It proved to be a gray fox. His head and front legs were draped over a limb, his eyes were nearly closed, and he was obviously somewhat dazed. I moved to within ten feet of him and he seemed barely aware of my presence. Blood dripped from a deep gash on his muzzle and a patch of hide was torn off one hock. His ears were nicked and his face showed a tooth mark here and there. We surmised

that there had been a fight between two gray foxes. Apparently, the one the driver had seen crossing the road was on his way to make it a free-for-all.

I took some flash pictures of the treed fox from a distance of ten feet, and it was a full five minutes before his ears perked up in response to our movements. Thinking he could catch the fox, the truck driver climbed into the spindly tree, but when he stretched out his hand the fox scrambled farther up the tree with the ease of a frightened cat, to gaze at his baffled pursuer from a higher perch.

We continued the search for a den and found one that had been used, but it didn't show enough wear for a nursery den.

June 5—Victor and I were watching the comings and goings at his purple martin house and I commented on several males returning with green leaves which they placed in their nests.

"They do that all the time," Victor assured me. "See how they've cleaned the leaves off of that Chinese elm over there."

Sure enough, the elm tree he pointed out bristled with bare twig ends stripped of the terminal three or four leaves by the martins. Do the leaves serve to cool the nest? Are they part of the nesting material? Are they meant to be decorative? No one seems to know the answer.

June 8—For months I've been trying unsuccessfully to photograph a cock grouse that drums on a certain big chestnut log in the Game Lands. He never shows up when I'm in the blind, but I often hear his thumping beat from the road. Last week I tried it again. Going to the blind about three o'clock I rigged up an electronic flash about seven feet from the log and pre-focused the tripod-mounted telephoto lens on the drumming spot.

About half an hour before dark a grouse began drumming *behind* the

blind—possibly a hundred feet away. Grumbling at my bad luck, I sat it out anyhow, and it's a good thing I did. Eventually the drumming stopped, and before long I heard a grouse approaching. Barely discernible in the fading light he passed within a few feet of the blind, mounted the log, and immediately started drumming. Thankful that I had pre-focused the camera before dark I snapped picture after picture while he continued beating out his challenge, unmindful of the blinding flash. When at length he fluttered up into a nearby tree to roost, I gathered up the equipment and groped my way back to the car.

The transparencies arrived in today's mail from the processor, and they would be perfect but for one thing. The confounded bird had moulted every feather on the top of his head, including, of course, the cocky crest that gives a grouse that aristocratic look. I now have a dozen pictures to prove that a bald-headed grouse is not a particularly handsome bird.

BLACK-CROWNED
NIGHT HERON



June 12—Bless those fellow nature-snoopers who share their finds with me! Paul B. and a buddy with a Jeep transported me over a mile of bumpy trails on Berry's Mountain near Elizabethtown to show me their latest discovery—a turkey vulture nest. We

crept down over the jumble of huge boulders as quietly as we could, but the big bird heard us coming and suddenly materialized out of the rocks, taking flight with a loud swishing of wings.

The "nest" was in a narrow tunnel between two great rocks. Lying on my stomach, head down and feet in the air, I poked a flashlight into the small opening. About five feet from the end the two huge eggs, nearly three inches long and irregularly blotched with reddish brown, reposed on the bare ground.



June 16—On a hunch I investigated a grassy nook at the foot of a red shale hillside and found what I'd hoped to find—wild strawberries! They were prime grade super-berries, some as large as the end of my index finger. Recognizing wild strawberry habitat from a distance may not seem like much of an accomplishment to the average person, but to a wild strawberry devotee it's as satisfying as putting out a grouse from a spot you've described to your hunting companions as "birdy-looking."

June 20—Strolled down to the pond this evening and was surprised to see a baby muskrat squatting in the shallows nibbling a root it held in its forepaws. When it finished that one it

waddled up the bank and with tooth and claw extracted another from the ground. As before, it returned to the water to eat.

While watching him, the young rag-weeds nearby parted to reveal a little brother or sister. This one was pulling down the weeds with its paws and nibbling off their tender tops.

They were cute little rascals—probably six inches long excluding the tail. Their pelts were grayer than adults, and were thickly overlaid with long, glossy black guard hairs, especially toward the tail.

I watched them for some time until George's muscovy drake came huffing and puffing across the pond, whereupon they disappeared into a nearby burrow.

June 21—A mockingbird nesting across the way made repeated trips to Rumel's lawn for food for her nestlings. The distance must have been more than 150 yards one way, but for an hour she made the flights without interruption. Obviously she had found good hunting. On one visit she picked a large caterpillar from the lawn, and on several occasions I saw her withdraw a black field cricket from the grass.

June 23—I watched the baby muskrats again this afternoon, and discovered that there are three of them. Two fed continuously among the rag-weed, but the other spent most of his time swimming about in one corner of the pond. He was buoyant as a cork and seemed to enjoy executing complicated maneuvers, like a small boy on a tricycle.

I had been sitting quietly on the shore, partially hidden by the duck shelter, and the little fellows were apparently unaware that I was there. Suddenly, however, the wind changed and blew directly in their direction. I can't prove they scented me, but the two on shore abruptly waddled to the water and swam across the pond to

their hole. There was no panic, but all three disappeared into the den and didn't come out while I was there. Several authors have written that baby muskrats are utterly without fear, but these three just do not seem to be that naive.

June 28—The trout in the Little Juniata had been on an afternoon-long feeding binge and we were satisfied to call it a day about 7 p.m. Instead of hiking back to the car, however, we simply relaxed on some streamside boulders by a deep pool and watched the day draw to a close.

The gurgle of the water obliterated every other sound, but Marie caught a movement in the bushes below us. Eventually a little buck with velvety forked antlers stepped gingerly across the riffle and into the woods on the opposite side. He was quickly followed by another fork-horn—a carbon copy of the first.

A little later three black-crowned herons coasted in to a landing in some tulip trees farther downstream, and as they carefully scanned their surroundings another one dropped down

to the tail of the pool below us. He stood motionless in the shallows for a small eternity, then stalked slowly along the left bank. Twice his bill stabbed at something in the water, but in the failing light I couldn't tell what success he had. Then something startled him and he flapped up through the branches with a barking *Quock*, scattering his companions who had been waiting in the treetops.

We turned just in time to see the ghostly silhouette of a whippoorwill land on a dead limb just above our heads. He could surely see us, even in the near darkness, but the May flies dancing over the pool drew his attention. He repeatedly dashed out to scoop them out of the air, usually returning to the dead limb where we could see him clearly etched against the afterglow. Sometimes he sat lengthwise on the limb as whippoorwills are said to do, and at other times he perched crosswise.

We didn't stir until the darkness had blotted out even the whippoorwill against the sky. Reluctantly, I switched on the flashlight, and we picked our way back to the road.

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By Nationally Known Wildlife Artist NED SMITH

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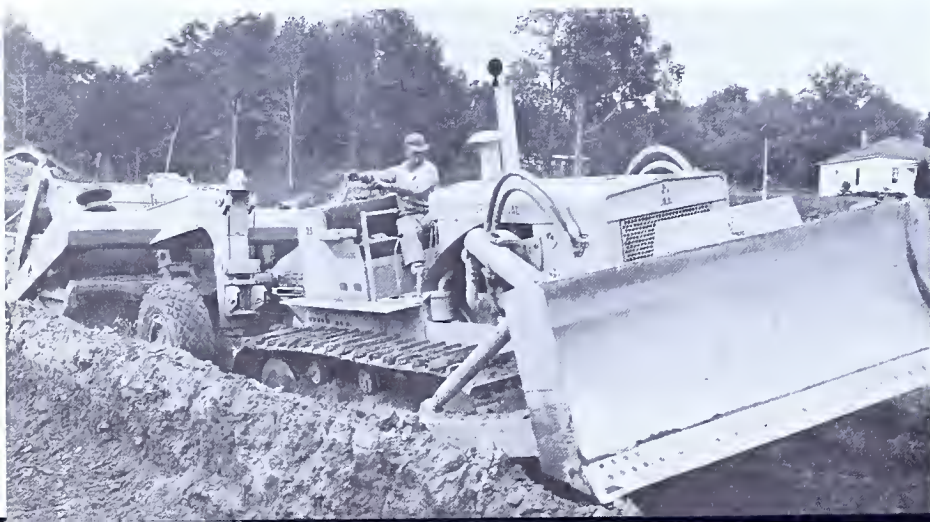
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Here Is Your G

IT COMES as a surprise to many that the Game and Inland Fisheries Commission conducts numerous projects during the hunting and trapping or seasons and has a variety of work projects. Commission projects include the purchase of Game Land, the land for dams, buildings, in remote areas. A nursery is maintained for shrubs for wildlife plantings. The Commission has a broad program of heavy equipment and the activities in which Land M

FOUNDATION for new division headquarters building at Huntingdon is laid, top. Hard rock is encountered in dam construction, above, and earth mover is used, below.





Commission . . .

lvanians to learn that the Game
ties not involved with hunting
he programs of our Division of
and construction, show a wide
eyors make property surveys of
ew roads, determine the lay of
and other work often found in
to furnish seedlings, trees and
e support of all these jobs is a
ation. Here are shown some of
is engaged.

By Ray Shaver



PINE SEEDLINGS, top, are lifted at
Commission's Howard Nursery; above,
water valve is installed.



**LAND MANAGE-
MENT DIVISION**
Chief C. C. Free-
burn, right, dis-
cusses equipment
care with Ken
Reynolds. Water
control works be-
ing installed, left.





ENGINEERING crew, top left, tests subsoil at dam site. Above, rock foundations at Shohola Dam are sealed.



CONSTRUCTION crew pours concrete footer, below. Above, surveyors Strennecky and Sowa locate Pocono Radio Transmitter site.



RANDALL WEBSTER guides excavation for earth dam, above.





WOODS CREW, top right, clears right-of-way on SGL 211, Dauphin County, as part of road improvement program.



SURVEYORS, left, use water transportation to reach Shohola Dam site on SGL 180 in Pike County. Below, foundation work on Shohola Dam, which will impound 1200 acres of water for wild waterfowl hunting.

BELOW, winter doesn't stop work at the Wild Waterfowl Farm.





FIELD NOTES



Vandals!

ADAMS COUNTY—The caretaker of the Horse and Buggy Museum in Gettysburg reported that an animal of some kind had ransacked the building. In checking the museum, I found it to be completely torn up. The ceiling had been knocked down; glass trinkets and everything else were scattered about the floor; they even managed to slide the glass doors open on the jewelry case and carried the jewels about the museum. In checking the rafters, I found the culprits: two raccoons!—District Game Protector D. C. Beach, Gettysburg.



Good News From Girl Scouts

ERIE COUNTY—This month I had the pleasure of awarding hunter safety certifications to 43 students. Ten were Girl Scouts ranging in age from 13 to 15. It gives me a great deal of pleasure to see the girls taking interest in the safe handling of sporting arms. This training is catching on in Girl Scout ranks, and those responsible are to be commended. — District Game Protector R. L. Sutherland, Erie.

Now We Know

On various envelopes I have seen "Prevent Forest Fires," "Subscribe to Pennsylvania GAME NEWS," and "Help Stamp Out Sports Cars"—but an envelope addressed to this office by one of our aspiring young hunters had a new twist on the air pollution problem: "King Kong Died From Smog."—CIA F. H. Servey, Ligonier.

Camouflage?

TIOGA COUNTY—In Tioga County we have quite a few black squirrels. Recently, while traveling through the Sabinsville area I saw a color variation of a squirrel which I had never seen before. This particular squirrel had a black body and a red tail.—District Game Protector F. A. Bernstein, Knoxville.

Just Honkin' Around

SCHUYLKILL COUNTY — March 23 was goose day in Schuylkill County. The weather—fog, rain and wet snow—brought geese down on every patch of water and places where there was no water. One tired goose took up the center field position on the Tremont baseball field. Residents of Tremont and Sweet Arrow Lake, near Pine Grove, were awakened during the night by the honking of the geese as they searched for a place to land. Many old-time residents told me they had never seen geese in the numbers that migrated through this year. We wish them a good nesting season and hope to see them again this fall, at the same distances.—District Game Protector L. E. Bittner, Tremont.

We're Still Number 1

FOREST COUNTY—After five days in the Game Commission booth at the Cleveland Sports Show talking to thousands of Ohioans, I'm sure if anyone is skeptical of Pennsylvania's hunting opportunities all he has to do is talk to these people and they will be convinced they are lucky to have all the places to hunt and all the game that we have. Many residents of Pennsylvania complain that \$5.20 is too much for a hunting license, but non-residents gladly pay more than \$25 for the privilege. A year or two of hunting in some of the other states would send the complainer hurrying back to Number 1. — District Game Protector C. Toombs, Tionesta.



Rabbit Damage?

MIFFLIN COUNTY—One of my complaints this winter involved rabbit damage to imported ornamental shrubs. When I checked the shrubs, I noticed that the bark had been peeled off of the trunk from near the base to the top of the shrub. Also in evidence were several sets of sled tracks that straddled all of the skinned shrubs. It was soon determined that no "bunny" had caused this problem, but that a proud and happy five-year-old boy had been "playing daddy and running over those crazy trees with my jeep." — District Game Protector J. D. Moyle, McVeytown.

Beat It, Bub!

CUMBERLAND COUNTY—A beaver in search of a mate, or a better area in which to set up housekeeping, will often travel a considerable distance overland. One night Erby Weller, a coon hunter from Newbury, was driving along a mountain road when he encountered a beaver traveling along the edge of the road. Erby got out and approached the beaver for a closer look. At this, the beaver stopped, clacked its teeth, and with a quick rush in Erby's direction quickly conveyed the impression that it was not seeking *human* companionship, and definitely was not hitchhiking.—District Game Protector D. R. Smith, Shippensburg.

Too Much for Garbage Man

ARMSTRONG COUNTY—A neighboring Game Protector disposing of a road-killed deer was performing one of his necessary duties by removing the embryos and the jawbone for research purposes. Looking over his shoulder was a garbage collector from Pittsburgh. When the chore was completed, the garbage man said, "Man, I sure wouldn't want your job."—District Game Protector R. H. Muir, Kittanning.

Unusual Request

LUZERNE COUNTY—I have received a lot of unusual requests. The one that I don't think I'll ever forget happened in March. I was sitting in my office when the phone rang and on the other end was a man calling from Red Rock Corners requesting information on renting some horses for his party to go horseback riding that day. The previous night about 6 inches of snow covered the area and it was still snowing when he called.—District Game Protector E. R. Gdosky, Dallas.

Destructive Quail?

BUTLER COUNTY—A lady complained that quail were becoming destructive on her property. I investigated—and found the “quail” were pigeons.—District Game Protector Jay Swigart, Butler.



Looking for Bonnie?

LEBANON COUNTY—This past December we fell heir to a large friendly striped Thomas cat named Clyde. Clyde had never been exposed to more open space than one can cramp into a flower box on a fire escape, and his only idea of wildlife was a group howlfest in some dark alley with feline friends. All went well with Clyde until spring, when he decided to explore the wilds of Lebanon County. He soon found that a furry creature with the appearance of a friendly striped lady cat was not a cat at all, but an unfriendly creature with a smelly way of reacting. This experience Clyde shared with all of us. After recovering, he decided to make friends with the pheasants that inhabit a nearby field. This relationship also left much to be desired, as Clyde was soon screeching around the backyard with a large ringneck attached to his left ear. Clyde is currently limiting his activities to our front windowsill (the inside one).—District Game Protector E. T. Clark, Lebanon.

Variety on the Susquehanna

CLINTON COUNTY—For a couple of days we had a great number of visitors on the Susquehanna River in this area. I saw more ducks, geese and swans stop here on their migration North than I had ever seen before. We noted at least 18 different species. Among them were Canada geese, swans, snow geese, canvasbacks, redheads, ringnecks, buffleheads, old squaws, pintails, mergansers, grebes and coots.—District Game Protector J. B. Hancock, Lock Haven.

Noninvolvement

LUZERNE COUNTY—The often-heard statement, “I don’t want to get involved,” also enters the wildlife law enforcement area. Sportsmen see and know of many deliberate violations but will not come forth with factual information necessary for prosecution. I believe we all owe it to the next generation to get involved and, in a small way, contribute to the conservation of our wildlife resources.—District Game Protector R. W. Nolf, Conyngham.

What’s Your Bear Score?

CARBON COUNTY—Roger Holtzer, 33 Willow Avenue, Slatington, Pa., has taken three bears since he started bear hunting eight years ago. At a recent meeting he asked if I would find out how many other hunters have bagged three bears while hunting in Pennsylvania. I told him the Game Commission does not keep records of this kind, but I would include it in my Field Notes and anyone who has accomplished this feat—three bears (or more) in Pennsylvania—could drop us a letter. I think this would be very interesting, as many hunters go through a lifetime without even getting a glimpse of a bear.—District Game Protector D. L. Moyer, Jim Thorpe.



Still Some Beavers

WAYNE COUNTY—Beaver season ended on March 10 at noon. On March 11 at 7 a.m. I received my first beaver damage complaint for the new year.—District Game Protector F. G. Weigelt, Galilee.

Wasting Our Resources

BLAIR COUNTY — This spring, whistling swans were looking for a place to sit down and rest and soon most of the lakes and dams in the area were filled. Then the calls came in that persons were shooting them. One man was apprehended after he had killed five and left them. What a shame that this beautiful bird cannot stop over here for a rest without being attacked.—District Game Protector P. R. Miller, Bellwood.

Hunting All Year

PERRY COUNTY—There are times when individuals will complain about the cost of a hunting license, when all they get from it is a few days each for small game and big game seasons. However, many do not realize the enjoyment one can have all year round hunting predators. Last year William Peters of Duncannon, his son Bob, and a friend, Junior Wolf, bagged 387 crows, 18 gray foxes, five great horned owls and one goshawk.—District Game Protector J. I. Sitlinger, Newport.

Watch for Wildlife

MONROE COUNTY—One day late in March I received a call about several deer that had been killed by vehicles along Route 80 between Stroudsburg and the intersection of Route 81-E. I started at Stroudsburg, drove 28 miles and disposed of the following wildlife: 10 does, 3 bucks, 1 snowshoe hare, 3 raccoons, 1 gray fox, 2 muskrats, 1 cottontail rabbit, 1 skunk, 1 grouse, and 2 opossums. One deer was an antlered doe still in velvet. Drivers, why can't we prevent this waste of a very valuable resource?—District Game Protector E. L. Taylor, Bartonsville.

Another Problem

CENTRE COUNTY—Of the nine deer killed in my district during March by vehicles, four were killed by airplanes. Three of the four were killed by one plane as it was leaving the Black Moshannon Airport.—District Game Protector M. Grabany, Philipsburg.



Real Sacrifice

Interviewing persons for employment on the Food and Cover Corps is very interesting. One young applicant with shoulder-length hair pleaded his cause by saying, "If you hire me, I'll even have my hair cut . . . if it's necessary."—Land Manager P. A. Hilbert, Cleona.

Unwelcome Visitor

SOMERSET COUNTY—One evening a telephone caller told me a bear was trying to get into his house. I thought it was a joke, but the person calling soon convinced me that he was serious. I went to the home and cautiously checked the back of the house. I soon saw the black object. Being alarmed by the flashlight, it started toward me, walking on its hind legs. I was relieved for it was only a cub bear I had seen many times at nearby Kisers Wildlife Ranch. Some candy and bread from the house quieted the cub until the owner arrived and placed it in his vehicle. Then I was told a second bear was loose. That bear was found along a creek nearby. Now all is quiet. The cubs are in their cage, which is sporting a new latch. The persons involved have relaxed.—District Game Protector J. Bruns, Jr., Central City.



Too Many Skunks

ERIE COUNTY—The skunk population has really been increasing in this area. From the number of complaints I get, there must be a skunk under every porch in town. One lady complains that her cat fights with a skunk in the yard almost every night. The results are obvious. — District Game Protector E. Simpson, Union City.

Better Show Than Tell

BUTLER COUNTY—While teaching a Vo-Ag Class at Moniteau Hill School we devoted some time to reptiles. I explained that while non-poisonous snakes occasionally bite, the bite is not dangerous and seldom painful unless one jerks away his hand while being bitten. To illustrate, I picked up an irritable black snake which promptly bit the back of my hand. But as soon as it saw it apparently was not hurting me, it let go. We all had a good laugh and I believe most everyone had a better understanding of snakes. —District Game Protector Ned Weston, Boyers.

The Right Approach

BEDFORD COUNTY—The Bedford Jaycees have sponsored a learn-to-shoot course for boys and girls aged seven to 15. The training was given with BB guns. Safe handling instruction and familiarization with firearms was given before any actual shooting was done. Awards were given to the high schoolers in each age group as well as to the most improved shooters. This training was undoubtedly of benefit to the 83 children who attended, and it also pointed out to them that the use of firearms, properly handled, can be fun as well as being safe.—District Game Protector C. J. Williams, Bedford.

Three Times as Many

CLARION COUNTY—This spring I received a call from a lady who had found a flying squirrel in her closet. She had it in a cage and would appreciate it if I would dispose of it. Weather conditions were severe, so I gave it to a man who had suitable quarters in which to keep it. Now it seems that he has not one but three—Mother Squirrel delivered twins. — District Game Protector D. Brown, Knox.



CONSERVATION NEWS



Vincent Greggo



Gary Miller



Jerry Barner

Wildlife Conservation Awards, 1967

THE THREE statewide winners in the 1967 FFA Wildlife Habitat Development Contest were recently announced by the Pennsylvania Game Commission. First place award in the competition, which is sponsored co-operatively by the Pennsylvania Department of Public Instruction and the Game Commission, went to Gary Miller, New Alexandria. Second place winner was Vincent Greggo of Pen Argyl, while third place went to Jerry Barner, Loganton.

The Wildlife Habitat Development Contest may be entered by any vocational agricultural student in Pennsylvania. Students set up work plans emphasizing recommended procedures in predator control, land management, firearm safety, marsh and stream development, conservation education, etc. These plans are approved by each student's area advisor of Vocational Agriculture, his Vo-Ag teacher and the local District Game Protector. When completed, each project is inspected

by Game Commission representatives and members of the Department of Public Instruction, who compare the area with photos taken before work started. From this, they can accurately judge the student's accomplishment.

Gary Miller's program included predator trapping, construction and maintenance of wildlife feeders, and food strip plantings. Vincent Greggo made border cuttings and brush piles, built a dam to attract waterfowl and engaged in predator control work. Jerry Barner concentrated largely on pest elimination. All these projects were exceedingly beneficial to wildlife.

Besides these statewide winners, the top three youths in each of the Game Commission's six field divisions were named. The Game Commission provided \$1000 in prize money, which was divided among the 21 winners. We congratulate the winners and thank all those who participated in the program.



Wilbur M. Cramer

Wilbur Cramer Dies

Wilbur M. Cramer, retired assistant to the executive director of the Pennsylvania Game Commission, died on April 9 at age 71.

Mr. Cramer held the all-time record of service with the PGC, over 47 years. He began his career with the Commission on October 30, 1914, as a stenographer. At that time he was one of three PGC employees in the Harrisburg office.

During World War I he served in the U. S. Army Quartermaster Corps.

He served as a field division supervisor from 1926 until 1936, when he was named first superintendent of the Game Commission's permanent training school at Brockway.

Cramer returned to Harrisburg as assistant to the executive director in 1949, and in 1954 became Pittman-Robertson projects coordinator. He served as management analyst from 1957 until his retirement December 29, 1961.

20,970 Pheasants Released

Nearly 21,000 ring-necked pheasants were released in the state during March under the Pennsylvania Game Commission's spring stocking program, according to Ralph E. Britt, Chief of the Division of Propagation.

The pheasant stocking program has undergone changes in the past several years in an effort to provide greater recreational opportunities and returns for sportsmen during the hunting season. Pre-hunting season and in-season stocking with higher returns to the hunter are being emphasized to avoid low yield and poor return from spring liberations.

Britt said that the 20,970 birds released include 12,200 hens and 8770 cockbirds. This is about the same number of pheasants released last spring.

Large-scale spring liberations in areas with adequate winter carryover of breeding stock or in marginal range have been de-emphasized in favor of large releases of cockbirds prior to and during the open season. Birds released in March have been liberated mainly in secondary pheasant range.

The current stocking program came about as the result of studies conducted under the direction of Game Commission Research Division Chief Harvey A. Roberts. The studies showed that widely distributed, large-scale spring releases put little in the game bags of hunters who finance the program. On the other hand, hunter recovery of cockbirds released in October and November exceeds 50 percent in many areas.

Experience has shown that it is futile to release game farm breeding stock in areas that do not normally support pheasants, according to Roberts. It would be equally unsound to release breeding stock in primary range which has an adequate winter carryover of birds. Hence, the emphasis on secondary range for liberation of pheasants.

Archery Licenses Will Be Sold by Issuing Agents

Beginning September 1 hunting license issuing agents in Pennsylvania will be permitted to sell archery licenses, according to the Game Commission.

Act 31, signed by Governor Raymond P. Shafer on March 28, 1968, permits those designated by the Pennsylvania Department of Revenue as license issuing agents to sell archery licenses. Prior to the new legislation, only county treasurers and the Revenue Department were permitted to issue the licenses.

The fee for an archery license is \$2. Issuing agents and county treasurers are now permitted to charge an additional 20 cents as an issuing fee. Prior to the new law the fee was 15 cents.

There are about 1,700 hunting license issuing agents in the state.



PGC Photo by Fred Servey

GAME COMMISSION display at the West Penn Sports Show, held at Civic Arena, Pittsburgh. During the five-day event, thousands of people discussed hunting and the outdoors with the Game Protectors on duty here. Such occasions give sportsmen a chance to get personal advice on local hunting conditions from men who know best.

Decrease in Prosecutions

EXPECTATIONS of some that the new Pennsylvania hunting hours would result in an increase in prosecutions for hunting before and after hours have failed to materialize.

Shooting hours, with four minor exceptions, have been from one-half hour before sunrise to sunset, since last September. The change was made to end confusion over different hours for different species in different seasons, to bring uniformity to shooting hours, and to provide more hours in which to hunt.

Some people have expressed concern that the new hours would bring about an increase in prosecutions for hunting before or after hours. Such is not the case. James A. Brown, Game Commission Law Enforcement Division chief, said that a review of records shows that in 1966 there were 84 prosecutions of Pennsylvania archers for early or late hunting. In 1967, under the new shooting hours, there were 36 archery prosecutions for hunting before or after legal hours. This represents a reduction of about 57 percent.

Final compilation has not been made on prosecutions during the gunning seasons, but a representative sample indicates a sharp drop in arrests for early or late hunting. There were 51 prosecutions in 1966 under the old setup, while in 1967, under the new shooting hours, 19 prosecutions were made in the same counties, a reduction of some 63 percent.

Must Have Hitchhiked

A 12-pound male raccoon, trapped and fitted with a radio transmitter in Canada's Delta Marsh last May, turned up six months later in an Indian's snare on the west shore of Lake Manitoba, at least 175 air miles away.



PGC Photo by Ralph Gady

WATERFOWL MANAGEMENT AGENT Ray Sickles, right, is presented with original painting of 1943 duck stamp by Mitchell Baker of Fort Pitt Retriever Club, in appreciation of Sickles' cooperation throughout the years.

Game Farms Welcome Visitors June 2

Open house programs will be held at all Game Farms on Sunday, June 2, from 1 to 5 p.m. Pennsylvania Game Commission personnel will conduct tours and explain how various game birds are hatched and reared. The six locations are: Eastern Game Farm, between Limerick and Schwenksville; Western Game Farm, three miles southeast of Cambridge Springs on Route 408; Loyalsock Game Farm, five miles north of Montoursville on Route 87; Wild Turkey Farm, 17 miles north of Montoursville between Barbours and Proctor; Wild Waterfowl Farm, two miles northwest of Geneva; Southwest Game Farm, three miles south of New Bethlehem near Distant, on Routes 28 and 66. Everyone is welcome.

She Moved Around

Deputy Game Protector Grover Bell, Jr., of Boothwyn, reports that Russell Bell, of Mahaffey, took an antlerless deer near Mahaffey this past hunting season. The whitetail had a tag in the ear. A check of the tag indicated that it had been trapped near Ligonier on February 12, 1958, and released the same day on State Game Lands No. 174 in Indiana County. The deer was already an adult when trapped, indicating she was at least nine years old when bagged. This whitetail was taken about 25 miles from where she had been released.

Hunting Licenses to Be More Readily Available

The steadily increasing demand for hunting licenses, which has made it difficult for some issuing agents to keep a sufficient supply on hand, has caused the General Assembly to enact new legislation expected to make licenses more readily available. Licenses are made available to issuing agents up to the amount of a bond they post. In the past, the minimum amount of the bond was \$1000, with a maximum of \$3000. This imposed a hardship on the agent and was a disservice to the hunter who, after going to the agent, sometimes found the supply of licenses exhausted. Under Act 27, signed by Governor Raymond P. Shafer on March 21, the minimum bond required for hunting license issuing agents was increased to \$3000, with no maximum. This will enable agents to post bonds according to anticipated sales and order enough licenses to take care of the usual "last minute rush."

Saylor Wins Award

Representative John P. Saylor of Pennsylvania has been awarded one of the first Bernard M. Baruch prizes for outstanding contributions to the field of conservation. Saylor co-authored the Land and Water Conservation Fund Act.



Robert S. Lichtenberger

New NRA Director

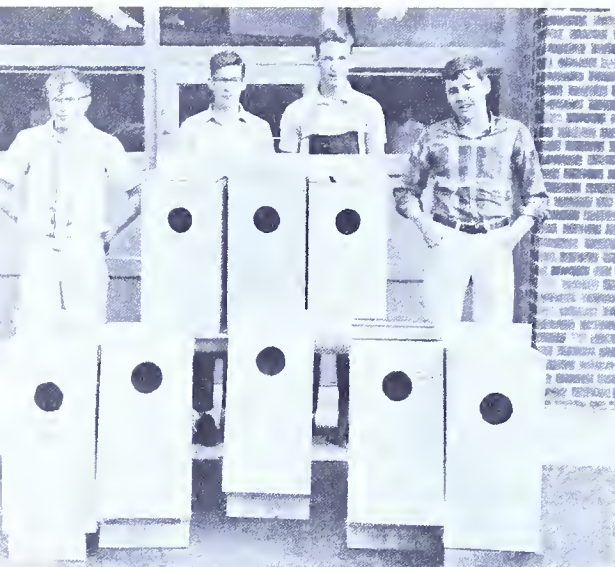
Robert S. Lichtenberger, deputy executive director of the Pennsylvania Game Commission, is one of eight new directors of the National Rifle Association. Lichtenberger, who has been with the PGC for 32 years, joins four other Pennsylvanians on the NRA board.

Dauphin County Snake Hunt

The annual Dauphin County snake hunt will be held at Linglestown (8 miles northeast of Harrisburg on Route 39) on June 1. Registration begins at 6 a.m., the contest closes at 5 p.m. Trophies will be awarded for the largest copperhead, largest rattlesnake, most copperheads, most rattlesnakes, largest snake of the day, and to the woman who collects the greatest total length of snakes. All snakes must be alive to be eligible for trophies.

Big Black

A three-pound 15-ounce black duck, believed to be a record, was shot in Maine during the past waterfowl season.



WOOD DUCK nesting boxes were built by Allan Johannes, Glenn Schwab, Denton Edwards and Dale Hocker of Damascus High School as part of a FFA project under the supervision of their Vo-Ag instructor, LaRue Elmore. Programs such as this benefit both the boys who take part and the wildlife.

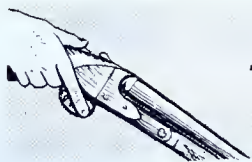


Photo by Don Shiner
POLICE CHIEF Eugene Brown, Nescopeck, shows a 23-lb. raccoon he bagged while small game hunting.

DURING the first three months of 1968, Game Commission employees bulldozed 2745 acres of poor-quality trees to create browse for deer; 1298 acres were in the North-central Division, where cost averaged \$19.41 per acre. Funds came from antlerless deer license revenue.

PGC Photo by Keith Hinman





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Mandatory Safety Training for Young Hunters

PENNSYLVANIA hunters under 16 who have never possessed a hunting license will be required to complete a hunter safety training course before being eligible for a hunting license after September 1, 1969.

The Pennsylvania Game Commission announced that plans are well under way to make hunter safety training available to all who will be required to take the course.

Under provisions of Act 30, signed by Governor Raymond P. Shafer on March 28, 1968, a first-time hunting license applicant under age 16 must complete a course of instruction in the safe handling of firearms and bows and arrows as approved by the National Rifle Association. The course will be administered in Pennsylvania by the Game Commission.

There will be no charge for the course. The Game Commission will furnish information to license issuing agents on the requirements of the program and certify instructors for the classes.

Cards are issued to those who successfully complete the course. Youths who have already completed the course and possess the card certifying that they have had instruction in hunter safety, and those who previous to September 1, 1969, possess a hunting license in any state, are exempt from the program.

Hunter safety training has been provided by the Game Commission in Pennsylvania on a voluntary basis since 1958. About 150,000 have been



DISTRICT GAME PROTECTOR ED BOND gives hunter safety program to 112 students at Bucks County Fish and Game Association.

certified as safe hunters through the voluntary program. Last year 32,741 completed the course.

There are nearly 100,000 hunters in Pennsylvania under the age of 16. Game Commission studies indicate that some 35,000 youths will be required to complete the course each year.

District Game Protectors will be responsible for supervising the mandatory hunter safety training course in their areas. More than 8000 hunter safety instructors have already been certified by the Game Commission.

Pennsylvania is the fifteenth state to make hunter safety training mandatory.

Dangerous Within One-Half Mile

ALTHOUGH there is no warning on a box of new arrows like the caution on a box of 22-caliber rifle cartridges which reads, "Dangerous Within One Mile," would you believe 856 yards for an arrow by a hand-held bow, and 1048 yards with a foot-braced bow?



INHERENT DANGERS of arrows are discussed by Mel Willis, Ned Weston and Coe Emory.

How far an arrow travels after release has caused some controversy among bow handlers. One statement, which had been included in the Attitude Inventory as a part of the Firearm and Hunter Safety Study by Dr. Frank Anthony of The Pennsylvania State University, indicates that arrows have been known to travel over one-half mile. The statement is correct.

Few Undecided

A majority of answers received from persons participating in the study strongly agreed with the statement. It is not known whether the individuals had prior knowledge of this fact. However, the question was answered with the *belief* that an arrow could be

projected for one-half mile. There were very few "undecided" answers. Reviewed by experienced archers, it was agreed that statement Number 44 of the Bow Handling Attitude Inventory, which made this claim (See GAME NEWS, January, 1968, p. 50), was excellent for creating discussion, thereby helping develop an attitude of safety in considering the flight of an arrow. A distance of one-half mile would be extreme, of course, but it has been done.

Longest Shot

During the 1967 NAA Flight Archery Championships at Ivanpah Dry Lake, Calif., in the amateur division, the longest shot was that of Fred Lederer, Milwaukee; competing in the class for 80-lb. bows, he sent an arrow streaking 783 yards down the sun-cracked desert floor. Vernon Godsey, Renton, Wash., shot 717 yards in the unlimited class to take first, and second place went to Lederer for 698 yards. For the amateur women, it was Norma Beaver, who won in all events; her best effort was 718 yards in the unlimited division.

In the professional division, unlimited category, Harry Drake, using a hand-held bow, launched an arrow 856 yards. (In the 80-lb. class, he came close to his unlimited mark with 851 yards.) Chris Wildenberg, Little Chute, Wis., was runner-up with 794 yards in the unlimited. Third in the 80-lb. division was Dick Tone, a member of the '65 U. S. Team, but a brand-new fletcher. He launched one of the knitting needle-sized, barreled, tiny-fletched arrows 715 yards. A distance of 1048 yards was established by Harry Drake with a foot-braced bow; he also sent a bolt from a crossbow 1359 yards.

Under certain conditions, therefore, an arrow could be dangerous at a half mile.



THIS NIGHTHAWK WAS PHOTOGRAPHED by Shiner with lens set at 600 mm, which gives 12X magnification.

Double-Duty Optic

By Don Shiner

Photos by the Author

THE WHITETAIL paused momentarily to check the wind before trotting off down the trail. As it did so, I shot one of the best pictures of it imaginable, and from nearly 75 yards away. A pileated woodpecker sailed in and landed on a nearby limb a few minutes later. I whirled the camera about and shot its picture too. In fact, I got four exposures of that bird before it flew off in search of grubs elsewhere. Before ending my short walk this morning, I also got pictures of a broadwing hawk, a wood mouse, and a very appealing one of a nighthawk incubating eggs on bare gravel beside a little used rail spur.

You see, I set out this day explicitly to shoot pictures of wild game. I had done well, though a few more exposures would have been welcomed.

I've done this sort of thing many times in the past, yet seldom with the ease accomplished this morning. I was testing a new and quite different tele-

photo lens. I suspect GAME NEWS readers who have occasionally envisaged themselves as wildlife photographers in an amateur sort of way will welcome word about this inexpensive and double-duty lens.

It's easy for hunters to get involved in this photo-hobby. They, perhaps more so than most people, encounter all kinds of scenes involving game that fall into that once-in-a-lifetime category. The urge to record these on film can get overwhelming. It's inevitable that cameras of some type be included in the outdoor gear.

The hunter usually begins by carrying a small camera. Enthusiasm runs high, but ironically, most game pictures turn out to be quite poor. It is one thing to shoot pictures of deer at 75 yards, and quite another to find them among the background clutter usually included in the pictures.

This happened regularly with this columnist. One of the earliest camera

experiences I recall involved a trio of whitetails—a mother and two fawns—that stepped out less than 150 feet from me and posed against a background of conifers. I quickly made several exposures. When I examined the finished photos, the deer were so small I could barely make them out.

I vividly recall another incident when an osprey appeared, carrying a catch for its young which were perched in a nest built on a ledge against a tall cliff. Because I lacked a telephoto lens and could not move in closer, I snapped the picture from perhaps 100 feet. You guessed right. The bird was lost in the rock pattern included in the exposure. I soon discovered that a telephoto lens of some kind was needed if I expected to carry on with this photo hobby.

As aspiring photographers do, I saved up to buy one of moderate power. It improved photos slightly. As time wore on, I wanted more powerful lenses. These, I learned, are as expensive as mink!

After many years of swapping and buying optics, I recently supplemented my collection with a lens of unusual

MONOCULAR can be fitted to various cameras popular with outdoorsmen, to broaden their versatility.



design. It is a monocular, capable of zooming from 350 mm to 650 mm focal length, for 7X to 13X magnification over that of a standard 50 mm camera lens. Had I known of this lens earlier, I could have avoided many costly pitfalls. Its cost is small, compared to many photographic optics, so that sportsmen can get involved in wildlife photography without investing much cash. It is the optic that I used this morning to shoot that assorted group of game.

The lens is the 6X-44 Televar monocular, one of two models imported by the D. P. Bushnell & Co., Bushnell Bldg., Pasadena, Calif. 91107. The lens is priced at \$59.50.

Monocular Defined

Before discussing this optic, it might be well to explain what a monocular is. You're probably familiar with binoculars, and know what they will do optically to bring far off scenes closer for inspection. If the two lens barrels in this instrument were separated by cutting the metal hinge, they would fall apart and become two separate monoculars. Each can be used alone. One eye, rather than two, is used to view through the barrel, much as is done when looking through a spotting scope or rifle scope.

Various monoculars are on the market. What sets this one apart is the special mount available, as an accessory, for adapting it to many amateur cameras. It converts the Televar monocular into a powerful and variable-power camera lens. It can be used to take pictures of game that is quite far away.

When not fitted to a camera, the monocular remains an excellent glass for pleasurable off-hand viewing. It can serve as a moderate power spotting scope for bird study. You can get by with it for target work on the gun range. It likewise is useful for glassing terrain when varmint hunting, or spotting antlers while deer hunting. It is only slightly less comfortable to

use than the twin-barreled binocular which provides optics for both eyes.

This particular monocular is adaptable to so many activities that it seldom gathers dust in the home. About the only adaptation it cannot perform is as a substitute scope sight on a rifle. Even so, this Televar is an all-in-one optic for sportsmen.

To buy individual optics to cover the sportsman's needs—telephoto lens for cameras, binoculars and/or spotting scope for game and target work—runs into substantial amounts of money. Photo-optics, for example, cost hundreds of dollars. One almost needs to mortgage a house to buy one of the better long lenses. For this outlay, the optic is of little use other than with a camera. Likewise high power spotting scopes. Most come high in price. There's not a whole lot you can do with one aside from using it on the range. Understand, these are fine instruments. If cash is no problem, they are a real pleasure to own. As a compromise, the double-duty Televar isn't bad.

Field of View

I obtained a Televar monocular primarily for an extra camera lens. It is far more compact than regular telephoto lenses of comparable power. The first time I mounted it on my Miranda camera, I adjusted the mount to full power (650 mm or 13X). A light bulb some eight feet away became my subject. At this distance the camera view barely covered the bulb. I shifted my focus onto a grandfather clock, some 25 feet away. It barely covered the hands and face.

Translate this into terms of wildlife photos. The monocular, at comparable distances, will barely cover the head of a whitetail, not including ears and antlers. At 100 yards, the image remains amazingly large, with the deer filling more than half of the picture frame. At 150 yards, the lens will cover maybe three deer standing broadside. Look at the nighthawk picture with this article. I was 30 paces



CAMERA'S STANDARD lens is removed to install monocular. Shown are adaptor ring, variable mount, monocular and aperture discs.

from the hawk when this was taken. This long lens makes it appear a close-up. Only a small amount of extraneous background is included in the picture. You can almost make out an expression of alarm in its eyes!

Okay, so this lens is versatile. It is a double-duty optic. What about the pictures themselves? Is quality sacrificed, as is sometimes the case in "all-purpose" gear?

I used this lens to expose several dozen rolls of film during past months. Image resolution is quite good, well within acceptable range, at all magnifications, I feel. Here we get involved in an argument that professional cameramen wage continually. When considering picture sharpness, one must establish how sharp is sharp!

Many factors affect image sharpness in addition to lenses. For example, there is that matter of aerial haze or pollution. Objects appear less sharp when partly obscured by haze or fog than they do on clear days. Wind and air turbulence, so common on hot days, likewise affect image sharpness. The type of film, camera movement and chemicals used to process the film also can affect quality of pictures.

This monocular differs from conventional photo optics in that it lacks an aperture, an integral part of most camera lenses which controls the amount of light reaching the film. Ex-

posure through the monocular is controlled by means of a series of discs, a set of four being grouped as an accessory and sold at one dollar.

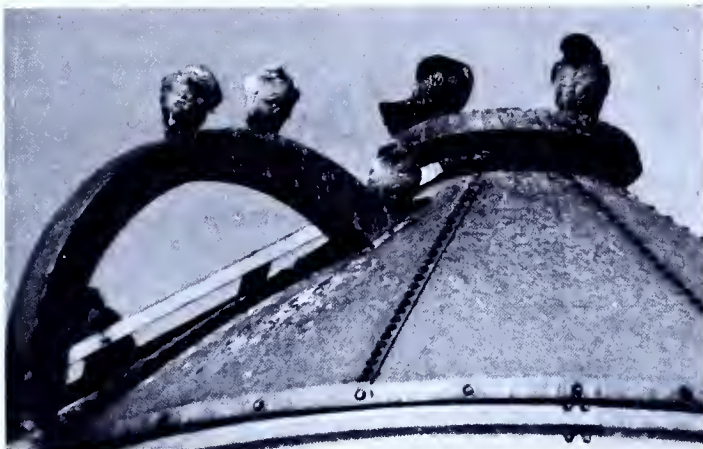
Variable Focal Length

As a monocular, it gives a constant 6X magnification. However, when the monocular is fitted to a mount and coupled to a camera (regular camera lens is usually removed except in the case of a few fixed-lens cameras), focal length can be varied from 350 mm to 650 mm. This is 7X to 13X beyond the standard 50 mm camera lens. At the 350 mm setting, the lens is rated at f-8. At 650 mm, this becomes f-16. As the series of discs are slipped over the lens barrel, the f-stop changes. Disc No. 1, for example, reduces the f-value by one f-stop at all focal lengths. At the 350 mm setting, disc No. 1 reduces the f-8 to f-11 aperture. Disc No. 2 further reduces it to f-16 and so on. This information is included in a small pocket-size chart accompanying the accessory discs.

Because prisms are an integral part of monoculars, the Televar is more compact than most photographic optics of comparable focal lengths and therefore easy to carry in the field. A drawback is that light passing through a series of prisms is reduced in intensity. That which passes through the Televar is reduced or partially "used up" by the time it reaches the film. The aperture discs make allowances for this slight reduction in intensity, but the image on the ground glass focusing screen in some single-lens reflex cameras becomes quite dim in poor light. The ground glass image also appears somewhat grainy. This has no effect on picture quality, but does hamper focusing critically. It becomes less noticeable, however, as one grows more accustomed to handling the lens under field conditions.

Several tips will help camera owners get better pictures when using a Televar monocular or other long-focus telephoto lenses:





VIEW OF PIGEONS taken with 10X magnification, above, compared with that from normal 50 mm lens, shown on opposite page.

1. Use fastest possible shutter speed. You are probably familiar with tremor, caused by hand movement, inherent in most binoculars and field glasses. Your eye compensates for this movement. Film does not. Higher shutter speeds do much to reduce chances of tremor blurring pictures during exposures.

2. Choose days when wind is still and temperatures are not too high, to do long-range telephoto work. Air turbulence and haze affect picture sharpness. Limit telephoto work to short and middle range subjects on these days.

3. Depth of field is important in telephoto work. Lenses adjusted to largest f-stop or aperture have shallow depths of field. Use smaller f-settings, thereby increasing depth to allow for margin of error in focusing.

4. Use tripod and cable release to help reduce camera movement. Gun-stock supports are useful at exposures greater than 1/125 second. Otherwise,

brace camera and lens against a solid support when possible.

5. Use high speed films (those with ASA rating of 100 or more) to enable you to shoot at higher shutter speeds.

Blind Useful

The Televar monocular is a medium-long range lens. It will magnify game images from quite a long distance, yet the use of a blind will help the cameraman get even nearer to game and thereby improve pictures. Camouflaged clothing will likewise permit you to move in closer to game for better photos through this variable-power monocular.

Those interested in adapting one to some camera already in their gear should write to the Bushnell people for a listing of the more than 40 cameras which can be fitted with mounts to accept this monocular optic.

The Televar offers a comparatively inexpensive way to get involved in wildlife photography.

So That's Where They Went

The ivory-billed woodpecker, North America's largest and rarest of this species, believed by some authorities to be extinct, has been located in the Big Thicket country of Texas.

The Draw

By Keith C. Schuyler

Photos by the Author



Fig. 1—BARRY BECK shows three-point, under-chin hold popular with sight shooters. Note kisser button.

THIS IS A continuation of the effort to equate skills developed on the target line to the ultimate in bow hunting sport—shooting big game. The April column covered the essentials in starting a shot, stance, arrow rest and arrow hold. Now we move into the shot with the draw.

“Draw not thy bow before the arrow be fixed,” reads an ancient proverb. Yet, if we *fixed* our arrow today as recommended in many books written even in this century, the remarkable scores which have become com-

mon in competition could not be made. An even more significant proverb reads, “An archer is known by his aim, not by his arrows.” All this adds up to the fact that it is necessary to have good equipment, but without the knowledge and/or the ability to use it properly, a person would do better to find some other frustration.

The Anchor

To develop any consistency with the bow, there is one basic essential. An archer must have an anchor point. This dare not vary for the sight shooter, and it must remain constant for any shooter for the distances likely to be encountered for the shot. The anchor point is the spot on the anatomy against which the archer holds the hand which draws the string.

Although bare bows—those without any visible sighting devices—are still fairly common in field course shooting, they are gradually disappearing from the target line. Despite the fact that a separate class is set up for bare bow shooters, sights are increasing in popularity. A good sight shooter will beat a good bare bow shooter every time. He will do so for the same reason that a good big football team will always beat a good little team. He has an advantage. But both types of shooters must have a constant anchor.

Probably the only reason that bare bows are still popular on field courses is because archers use this as a means of developing hunting skills. Nevertheless, target arrows are generally employed. There is a wide margin of possible excellence between using regular target shafts and hunting weight arrows.

But in either approach, an anchor point is vital. It ensures that the nocked end of the arrow will always be in exactly the same position. This is essential to good shooting. The chart which a sight shooter uses to adjust his sight for known distances would be useless without a constant anchor. The *picture* of the target a bare bow shooter uses as his means to determine how to aim would be inconstant without an anchor.

Three-Point Anchor

Although at one time the anchor point varied considerably among archers, from the breastbone to the ear, development of modern sights has generally nailed down one for those who use mechanical devices to aim. It is under the chin. This permits what is actually a three-point anchor—the chin, the lips and the nose. Although the actual anchor is with the forefinger tight against the chin, the string is drawn so that it touches the lips and nose when the anchor is properly engaged.

There are those who rank high among sight shooters who employ a side chin, corner of mouth or cheekbone anchor point. But there are two things all good shooters have in common no matter where their anchor point might be. First, they can line up the string with their shooting eye; second, their hand is in a position which permits a clean breakaway to the rear when the string is loosed. As in all phases of archery, there is no complete consistency, no one completely right way to anchor. Experimentation will show you what is best for you. The important thing is that you feel the pressure against your face in exactly the same spot each time.

For hunting with a bare bow, the essential anchor is as important as in target shooting. It is impractical to develop an anchor which entails any refinements such as the *kisser button* used by Barry Beck in Fig. 1. This

certainly does not eliminate the under-the-chin anchor. Sight shooters may do well to stick with their target anchor, since this is most familiar and comfortable.

My personal preference is for the high, cheekbone anchor illustrated by Bill Wise in Fig. 2. There are a number of reasons for the choice. You are more nearly looking down the arrow. It eliminates much correction from “dead on” for distances up to about 30 yards—well beyond the distance that the average bow hunter should take a shot at big game. The less correction, the better the chance to make a clean hit.

One particular caution is necessary in use of the side-of-face anchor. If the hand is not held tightly against the face every time, considerable lateral error will result. No anchor is any good for any kind of shooting if it cannot be kept constant.

Bow sights are practically useless for hunting. I get a lot of wind on this statement, but many of my friends finally abandoned sights for hunting after sad experiences. The reason is simple. Sight shooters must know the

Fig. 2—HIGH CHEEK anchor works well on big game for Bill Wise.





Fig. 3—FINGER STRAP prevents dropping loosely held bow after shot.

distance to the target to be effective, and no human can consistently judge distances accurately under hunting conditions. Consequently, the sight shooter should learn to shoot a bare bow if he wants to go hunting. Many do, and well.

Those who mark distances at tree stands so that they know how to set their sights when a deer appears leave me a bit cold. This isn't hunting; it's target shooting!

Last hunting season I had some interesting experiences when I carried a 100-foot tape along and had hunters, including myself, guess distances before checking them with the tape. Wild!

The important thing here is that a proper anchor is just as essential in the hunting field as it is on the target line. It is even more important to develop it to the extent that you can find it every time without thinking, for you seldom have time to concentrate on form in the field as you do when facing a stationary, inanimate target.

Bow Handling

We hesitate to use the term "bow grip" since in modern shooting there is very little real gripping done with the bow hand if proper form is used. Yet the bow hold or bow handle is extremely important. This is the other end of your power plant, for as your extended arm pushes the bow away from the string, it determines what

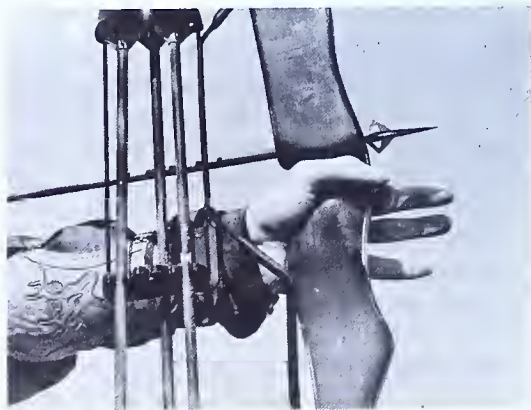
amount of force stored in your bow is to be made available when the shot is loosed.

This is your draw.

In fact, the distance from your anchor point to the back of your bow should determine what length arrow you need. Any other method of measurement is pure guesswork. Once you have developed a personal anchor point and you have a constant draw, the length of arrow you should use is the distance from the center of the nock on a drawn shaft to the back of your bow. (The back is the side away from you when you hold the bow in shooting position.) The only exception to this is when a clicker is used on target bows. This is a gadget which lets the shooter know when he is at the desired draw by snapping over the end of the shaft. It has no realistic use in hunting.

Those who argue that the length of arrow is unimportant if a solid anchor is established miss an important point. If the shaft extends beyond the back of the bow, there is no way to determine if the draw is constant. Watch how the end of the arrow slides back and forth for the average archer. If the arrow is spined for your proper draw length (i.e., to the back of the bow), it will be too stiff if you are not taking a full draw. It will shoot left.

Fig. 4—BOWHUNTER uses light forefinger pressure to catch bow after shot is away.



Target shooters (the good ones) usually employ either a wrist strap or a finger strap such as is illustrated by Barry in Fig. 3. This permits a loose hold through the shot without dropping the bow. Gripping the bow is likely to cause it to torque one way or the other, depending upon whether the shooter is right- or left-handed. Without a strap, the shooter will unconsciously grab before the shot is completed. Or, he will hold the handle too tightly during the shot for fear of dropping the bow.

Such straps are not practical for hunting. This is particularly true where much walking is involved and there is the hazard of falling or stumbling on uncertain terrain. As a substitute, most hunters develop a semi-loose hold. Or, as Bill illustrates in Fig. 4, one finger guards against loss of the bow on the shot. It takes long practice to avoid gripping or grabbing the bow on the release.

Basically, a shot with a hunting arrow should be no different than one with a target arrow. Failure to coordinate the release properly can be costly. What might just be a 3 instead of a 9 on a target can be the loss of a real trophy in the field. Worse, a bad hit.

Bow Position

That brings us to the third important part of getting a complete draw—how to position the bow.

On the target line, the classic, and for the vast majority of shooters, the proper, position is exactly vertical. See Barry's target form in Fig. 5. This is so important that sight shooters frequently utilize a tiny level installed just above the sight where it can be

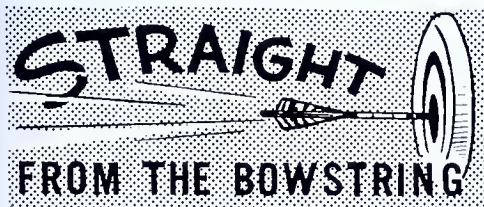


Fig. 5—VERTICAL BOW position is vital on target line where mechanical aids are used.

checked immediately before the arrow is loosed.

Impracticability of the sight in hunting is further emphasized when all equipment common to most sight shooters is totaled. The stabilizer, which extends like a lightning rod or a set of horns in front of the bow, obviously eliminates itself from hunting. By the time the archer guesses the distance, sets his sight, draws to check his level, gets his sight on the target and perhaps listens for the clicker to determine when his draw is proper, the game is long gone into the bushes.

This certainly does not mean that the sight shooter cannot do well in the hunting area. But if he cannot shoot without the aids necessary to compete successfully on the target line, he is going to have real problems. His best bet is to have an extra bow for hunting and to practice on the nearest field range. Too many are spending too much time shooting their target equipment on the field range to compete for score without allowing enough practice with their hunting bows. A



couple of rounds before the season opens is not enough.

The archer most likely to shoot well in hunting is that relatively rare individual who comes nearest to being a really fine instinctive shooter. He uses a hunting weight bow and hunting weight arrows. He relies entirely on his own judgment when he pulls up on a target, and he estimates where to hold by the picture he gets over his bow hand.

Some who reportedly shoot bare bow have a number of ways to beat the game. In fact, it has become necessary to check bows carefully at some tournaments to ensure that no devices such as string servings, varnish chips on the bow, etc., are being used as sighting aids.

Posting of target distances at each station on field courses takes away the purely instinctive factor for even those who rely on no other aids. Much of the value of field course shooting for hunting practice went down the drain

when the decision was made to post distances. It was the need of sight shooters to *know* the exact distance which dictated the change. Nothing brings more groans than when a specialty shoot is held and unknown distances are used. *All* shooters who use any form of mechanical aid in shooting, as well as those who do no more normally than check the posted distance, have their troubles.

Canting Common

Canting (tilting) the bow is common with hunters. Since it is impossible to be certain of a perfect vertical hold under hunting conditions, it is desirable to be able to shoot well with some cant. The most undesirable feature of such a bow position is the inability to always cant at exactly the same angle. Nevertheless, under hunting conditions there are times when, because of brush, terrain or shooter's position at the time of the shot, a vertical hold might be impossible. A hunter must be ready to shoot in almost any position at any time. See Fig. 6.

A more practical reason for canting the bow is because the more common arrow rests, which permit the arrow to lie against the side of the bow, or a small protuberance built in to help clear the shaft on release, do not dampen the side effects of the arrow's pressure against the hunting bow as much as with the target bow. The lighter arrows, plastic rests and stabilizers used by targeteers are impractical. This takes us back to the business of inertia of heavier heads, effects of heavier fletching, etc. The arrow tends to go left; canting brings it back on target.

Because of the limitations in equipment for hunting, the need for practice becomes even more important. *Anchor* positively, *hold* the bow with light firmness, and practice until your *cant* can. Don't discard everything that gives you good scores on the target. Adapt.

Fig. 6—ABILITY to shoot with canted bow is helpful in the hunting field for many reasons.



WILDCATS!



USING A CHUCK REST to steady his aim, Don Lewis gives new wildcat rifle a workout in the gamefield, finds it performs well.

By Don Lewis

Photos by Helen Lewis

"IT'S TOUGH bein' left-handed as far as buying a rifle goes," remarked the owner of the rifle I was working on.

"How come?" I asked without looking up.

"A southpaw doesn't have too much to choose from in the way of bolt action rifles."

"Hold on," I broke in. "This Savage 110 of yours is a left-handed model, and it can be bought in at least four different calibers."

"That's not what I mean. I agree you can get this model in different calibers, but that's about all a south-

paw shooter can buy. You northside swingers can have any caliber you want and in a variety of makes and models. If I don't happen to like any of the calibers offered for this model, I'm out of luck, since this is the only left-handed model I can afford."

"What do you want? It's offered in the four most popular calibers on the market. Everything from the 30-06 to the 243."

"Yeah, I know. And if I don't want one of those calibers, I suppose you'll tell me to buy a pump or a lever."

"You're absolutely wrong," I fired back. "It just so happens that you can



HEADSPACE GAUGES, CHAMBERING REAMER and micrometer—some of the equipment used during the building of a wildcat rifle.

have any caliber you want. You can rebarrel this action into practically any conventional caliber, or go wildcat."

"Wildcat! What in tarnation is a wildcat?"

He'd reacted so quickly that I couldn't hold back a smile. "Without trying to confuse you, I'll explain it this way. It's a cartridge that is not manufactured by a commercial arms company. It's more or less a maverick, since you can't buy ammo for it at the local sports store—."

One Example

"That's enough for me. I don't want some homemade contraption that would probably blow up or I couldn't get ammunition for." He waved his arms in disgust.

"Hear me out," I said calmly. "You're jumping to conclusions. The average wildcat rifle cartridge is made by altering a commercial case. Many are made from 30-06 cases, so there's no need to worry about ammunition. I'll show you a wildcat rifle and how I make ammo for it."

I handed him a 25-06 I had in for trigger adjustment. While he was studying the rifle, I got several empty 30-06 cases and the necessary dies to make the 25-06 case. He gave the rifle

back to me and told me that it looked like any other rifle to him, except it didn't have a factory name on it. He showed plenty of interest when I shoved the '06 case into the die and pulled out a 25-06. And he was a little perplexed when he saw how nicely the neck of the case was reduced to a 25 caliber. When I finished hand-loading the wildcat cases, I could see that the idea of making a wildcat rifle out of his 110 Savage really appealed to him.

A few days later he came back and asked me what I thought would be a good caliber to convert to. When I found out that he wanted something out of the ordinary, I suggested the 6mm-06, which is sometimes called the 243 Super Rockchucker. I think it was the intriguing name more than anything else that made him agree instantly. We discussed the type of barrel, adjusting of the trigger, stock work, and a dozen other things before he finally told me to work him out a price. Fortunately, when he showed up the next evening, I had most of the prices. He studied the figures for a few seconds, then nodded. Two days later, I had the action on its way to have a target-weight premium grade barrel installed and headspaced.

Ten days later I received the bar-

reled action with a fired test case to prove that the barrel had been properly headspaced. My close gunsmithing friend Randall Fredericks blued, inletted, and glass bedded the barreled action into the original stock. We had our doubts whether there would be enough wood to accept the heavier barrel, but Randall fitted it perfectly. Right from the start, it was an impressive looking rifle.

My first real contribution was reworking the trigger. When I was finished, it was clean and crisp with a pull of just under three pounds. To me, a good trigger is the heart of a rifle.

Testing

I had already received the proper loading dies from Fred Huntington of RCBS, designer of the 6mm-06 cartridge, along with loading data and a chronograph report. Unlike some wildcat cases that have to be fire-formed, the 6mm-06 can be swaged to a proper chamber fit right in the loading die. After necking a regular 30-06 case down to 25 caliber in the 25-06's 17° trim die and filing off the excess, it's just a matter of running the case into the 6mm-06 resizing die to change the neck angle to a sharp 28° slope. The change from the regular gentle shoulder of the '06 to the sharp 28° leaves the neck slightly longer, or nearly $\frac{3}{8}$ ". Pushing the shoulder back to a steeper angle does not reduce the powder capacity too much for the 6mm bullet. In fact, some might think it is still of too large powder capacity for this caliber—"overbore," as many writers describe this condition.

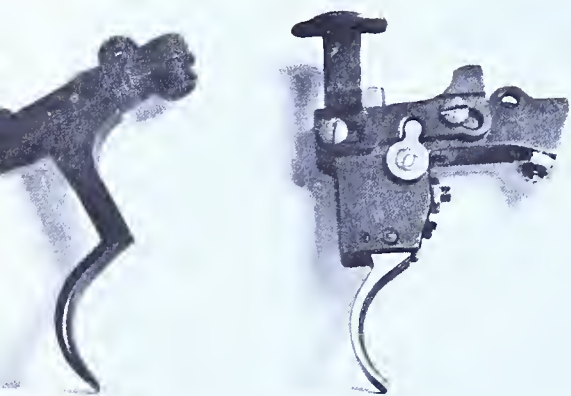
I loaded 40 rounds of different test loads and headed for the 100-yard range. After a couple of warm-up shots, I fired a five-shot group. When I saw the $1\frac{1}{2}$ " group through the spotting scope, I felt we had a good rifle in the making. Before I finished, I dropped one group down to just an inch, and I was positive that my customer had made a good investment.

I shot about 100 rounds during my tests, but the results didn't change much. I managed to hit the inch size with several groups, but averaged $1\frac{1}{4}$ " for all my shooting. I added the icing to the cake when I made a precise head shot on a young chuck at 195 long steps. I gave the rifle to the owner with a high recommendation, six boxes of handloads, and the assurance that he had made a wise decision in going wildcat. Even if much of the work had been done by others, I had a real sense of accomplishment as I watched him drive away.

You can imagine my surprise a week later when he came to an abrupt halt in my driveway, poked his finger out the car window, and demanded that I put his '06 barrel back in the action. Helen and I were loading our car for a chuck hunt at the time, and we must have looked flabbergasted. He eased the situation when he broke out laughing and told us his only complaint was that he couldn't hit the side of a barn with his fancy wildcat. In fact, he had missed more than a dozen chucks beyond 125 yards. Since he hadn't touched the scope adjustments, nor had he dropped the rifle, it was his contention that the new

30-06 CASE, left, is pushed into die to reduce neck diameter to 25 caliber; case is then swaged to sharp-shouldered 6mm design in another die.





MILITARY TRIGGER, left, is not as suitable for accurate shooting as fully adjustable trigger, right, Lewis believes.

creation just would not shoot where he was aiming. I'm not sure if he knew how well Helen can shoot, or if he was just tossing a few sour grapes at my shooting, but he walked right past me and asked her if she would use the rifle for a few hunts and see what she thought. His laughter hadn't concealed the fact that he was just a little disappointed, and I was a bit apprehensive about the whole deal.

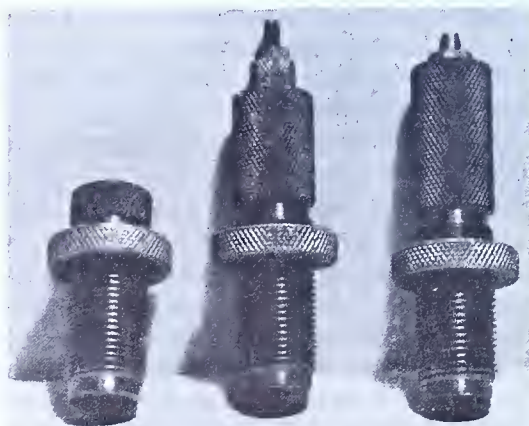
The rifle more than proved to be everything my tests indicated. Helen shot at nine chucks all over 150 yards, and eight died from head shots. The last chuck was purposely shot in the chest. I was almost afraid to tell the owner how well his rifle had done for fear he would think I was making fun of his shooting. I cleared the matter up in short order when I watched him fire a few shots from my benchrest; he practically jumped on the trigger.

The mere mention of a wildcat rifle often carries an air of suspicion. Many shooters who aren't familiar with good custom rifles feel that when you leave the ranks of the factory rifle, you're flirting with danger. I know that a few wildcats which were thrown together have let go, but there is no need to worry when the right components are used along with the services of a reputable gunsmith.

The birth of the wildcat came about when some gun addict decided he could create a rifle from existing components that would fill a gap between some of the commercial cartridges. After all, the wildcat is usually built with a specific job in mind. Another thing, the wildcat is not new. Back in the early 1900s, gunsmiths were tinkering with new designs, and some of these old-timers are still used today. Several have been adopted by the factories. The 25-06 is one of the oldest wildcats. It started out as the 25 Niedner, and it was made by simply necking down an '06 case to accept the 25-caliber bullet. It has appeared with a variety of shoulder angles, but the 17° 30 minute angle of the regular 30-06 seems as good as any. The introduction of slow burning powders such as 4831 and 4350 enhanced the performance of the 25-06 and assured it a long life among varmint hunters desiring a rifle between the 22s and the 270 caliber. This version, along with the 22-3000 Lovell, 228 Thunderbolt, 6mm Cobra and hundreds of other private developments never got beyond the wildcat stage. Most are forgotten, and I feel the chuck hunter of today is the real loser since he can't purchase one over the counter.

One thing we can be thankful for is

LOADING DIES used for forming wildcat cartridge cases from factory brass. Handloaders use these dies in their bench tools.



that some wildcats gave birth to several of our fine factory jobs. The 6mm Rockchucker led to the early 244 Remington; the 243 was created when a wildcatter necked down a 308, and squeezing down the 250-3000 made the famous 22-250 decades ago. In case you're thinking that all wildcats are cases swaged to a smaller caliber, I might point out that the famous 35 Whelen is the 30-06 necked up to a 35 caliber.

"Improved" Cases

The wildcatter was not satisfied to just neck up or down; he had to go "improved" by reaming out the rifle's chamber to make the neck angle sharper and, often, the sidewalls straighter. This requires fireforming, and the end result is a case which will hold more power. On my 25-06 Improved, I neck the '06 brass down to 257, put nine grains of Bullseye pistol powder in the case, fill the case with corn meal and the neck with face tissue. On firing, I get a perfectly formed case. *(Since handgun powders develop high pressures with even light loads, this procedure must be approached cautiously. Start with low charges and work up slowly.)*

Since the wildcat is usually made on a military action, it would be advisable to install a new trigger. Few military type triggers can be altered into fine crisp lightweight triggers. The trigger is the only medium between the shooter and his shot; it should be the best he can afford. I've seen dozens of rifles that had premium grade barrels, fancy decorated stocks, and hundred dollar scopes on them that wouldn't shoot a two-inch group at 100 yards. You couldn't expect tight groups from a rifle that had a five-pound plus trigger pull. The thoughts of fifteen to twenty-five dollars for an adjustable trigger seemed like too much money for most gun owners. Usually the gunsmith is encouraged to put that much money or more in pads, plates, and trappings that glitter

and shine, but suggesting that much for a new trigger gets the negative nod nine times out of ten.

Although any competent gunsmith who has the proper reamers, lathe, and headspace gauges can rebarrel an action, there is nothing wrong with



INTENDED primarily for chuck shooting, this wildcat rifle features a thumb-hole stock for good trigger control, has high comb for scope use.

using the services offered by most barrel makers. Since he has his own particular requirements when it comes to fitting and headspacing the barrel, you are assured of a satisfactory job if you use his talents.

Most fellows I've dealt with wanted the premium grade barrel because they thought it was made from better steel. This is not so. A premium grade barrel is one that is straight after it has been bored. No one knows which barrel is a "premium grade" until after it has been checked. When a barrel is not straight, it is put in a barrel straightening vise and made true. This might result in a less accurate barrel. I usually buy the premium grade since it's only a few dollars more, but I have no fear of the barrel that has been straightened.

Unless a radical change in barrel size is made, the original stock can be used. However, if you are building from just a military action, a new stock should be purchased. I suggest many times that the customer finish the outside of the stock himself. A good stock man will inlet and glass bed your action or free float the barrel for much less than the price of a new stock. You'll enjoy the rifle more when you actually do some of the work for yourself.

Keep in mind that the wildcat rifle is not necessarily a roaring powerhouse. It's simply a homespun creation that fills some specific desires for a particular rifle. It's as simple as that.

I have a great deal of faith in the wildcat rifle, and I can heartily rec-

ommend one to any shooter. I suppose it's the psychological aspect that gives most of us the burning desire to own something just a little different. Also, I believe we might recognize the benefits obtained by going wildcat, so, if you have any hankerings about owning a really special rifle, consider the wildcat. I won't promise that it will be inexpensive—altering the bolt handle, installing a new safety, re-barreling the action, and the necessary stock work does cost money. But I can guarantee that by the time you have dug up all the pieces, made at least 20 trips to your gunsmith, and worried and fretted over the outcome, you'll be just the same as the rest of us—a man who proudly shows off his new rifle and says, to the amazement of his listeners, "It's a wildcat. . . ."

Book Review . .

Guide to Cartridge Conversions

With handloading of ammunition growing rapidly in popularity, it's inevitable that some shooters will want to reload for firearms for which no cartridge cases are readily available—for instance, the 5.2 x 34R Kron Prinz or the 35-30 Maynard. *The Home Guide to Cartridge Conversions* by George C. Nonte, Jr. (Stackpole, Harrisburg, Pa., 1967, 404 pp., \$8.95), makes this possible. In precise detail it tells how to form hundreds of rare or obsolete cases from readily available designs, using equipment normally found in a reloader's shop. The first half of the book also gives extensive information on the mechanics of case forming, loading tools, etc. An excellent reference for advanced reloaders.

Hunters in Conservation

No one who understands nature's ways of keeping game populations in balance with their environment will condemn the hunter. He is taking only what will be lost, anyway. Death to the majority of wildlife within the year is inevitable.—William E. Towell, in "Shooting Is Conservation, Too!"

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ROBERT S. LICHTENBERGER *Deputy Executive Director*

JOHN M. SMITH *Comptroller*

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JULY, 1968

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COVER PAINTING BY NICK ROSATO

"Brash," "spunky," "raucous," "obnoxious"—these and many other similar adjectives are regularly bestowed upon the little red critter portrayed on this month's cover. Chances are he deserves them. But we'd really hate it if a walk through Pennsylvania's woods were never enlivened by this little gossip's scolding. Why don't you count how many red squirrels greet you on your next hike this summer? The total might be surprising. For more background on this interesting animal, see page 20.

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Breathed Your Half-Ton Yet?

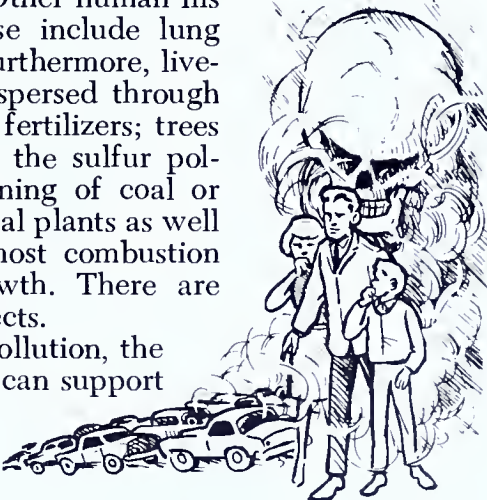
AN OIL COMPANY research and engineering scientist, speaking recently at the 32nd annual meeting of the National Wildlife Federation in Houston, Texas, said that the nation's air pollution problems are on their way to being solved. He claimed that unwanted emissions of harmful substances are going down, not up. As an example, he cited an abatement program in the New York-New Jersey metropolitan area (where sulfur dioxide concentrations are greater than anywhere else in the nation) which will reduce such emissions by 70 percent from their 1965 levels within two or three years. He also stated that within ten years the total emission of unburned hydrocarbons from cars will be no more than they were forty years ago, despite the fact that there will be nine times as many vehicles.

This sounds wonderful, but even though we're not from Missouri, our attitude is: "Show me." We have a hunch you'll feel the same way when you consider another report. Writing in *Catalyst*, Dr. John T. Middleton, Director of National Center for Air Pollution Control, U. S. Dept. of Health, Education and Welfare, says: "It has been estimated that 142 million tons of pollutants were released into the air over the United States during the last year—more than half a ton for each of us." To be a little more exact, at the 200 million level for population, this amounts to 1420 pounds per person, or some 17 billion pounds for Pennsylvanians! How'd you like to stuff that in your pipe and smoke it? Better not, though. It's been run through some other "incinerator" already.

Dr. Middleton points out that this airborne pollution comes primarily from the following sources: motor vehicles, 86 million tons; manufacturing, 23 million tons; electric power generating, 20 million tons; home and building heating, 8 million tons; refuse disposal, 5 million tons. The worst offender, obviously, is the automobile. Therefore, there would seem to be some reason for optimism, if the oil company's researcher is correct in stating that many of these vehicles' emissions can and will be eliminated.

Meanwhile, though, you and I go on suffering. Emphysema, a progressive breakdown of air sacs in the lungs, is our fastest growing cause of death. It is severely aggravated by air pollution. Other human ills at least partially resulting from this cause include lung cancer, bronchial asthma and bronchitis. Furthermore, livestock is affected by fluorides which are dispersed through the atmosphere during production of some fertilizers; trees and plants are destroyed by fluorides and the sulfur pollution resulting from smelting or the burning of coal or certain kinds of oil; smog destroys ornamental plants as well as crops; nitrogen dioxide—produced in most combustion processes—is believed to stunt plant growth. There are many other pollutants that give similar effects.

The more of us that are aware of such pollution, the better our chances of eliminating it, for we can support the various programs dedicated toward that end. We had better help them—or there'll be no help for us.—*Bob Bell*





I Saw Them Play!

By Albert G. Shimmel

A CONFUSION of barely audible sounds disturbed my sleep. I opened my eyes. As they accommodated to the dim light I saw a low-growing hemlock branch move. It dipped until it touched the ground, then lifted again. A dead branch with a broken tip some two feet above was silhouetted against the sky. A white-footed mouse ran along this open path, paused at the end, then sprang out and down. It landed on the springy tip which bent under its weight, depositing its elfin passenger safely on the ground. The branch had barely swung back to its original position when a second mouse dropped from above. Then came a succession of jumpers. I counted eight but I am sure there were more. As each reached the ground it turned, raced for the trunk and climbed swiftly so as not to be cheated of its turn at the sport. On each return trip they passed so close to my sleeping bag I could have touched them.

I was so engrossed in their antics that when one ran to the end of the branch, sat up, then uttered a series of high-pitched musical calls, I became aware of the variety of individual sounds uttered by the others. It reminded me of the shouts of children, lost in the joyous abandon of play.

As the exercise was repeated there were times when one followed the other so closely that both were in the air at the same time. The branch below swayed so violently under their combined weight that neither secured a firm footing and as a result tumbled to the ground in small confusion. They would jump up quickly and confront each other. One would leap over the other, kicking downward with both hind feet. After a few exchanges they apparently came to a peaceable understanding and rejoined their fellows.

They climbed and moved about the branches with a speed that was almost unbelievable. Curiosity drove them to investigate everything, including my bed and person. One sat a few inches from my face, his long whiskers quivering with excitement, then as if dismayed by his own daring, gave a squeak of fright, leaped to the ground and disappeared.

Play Is Amusement

Play has been defined as an activity, either physical or mental, for the sake of amusement. It is a diversion or relaxation. In animals it is an expression of exuberance, well-being and the joy of being alive. If we accept this definition, the activities of those white-footed mice could surely be called play.

Certain animal activities bear a close resemblance to the familiar games of our childhood.

Soon after they leave the nest, young red squirrels visit the feeder fastened to the big maple. They practice climbing on the rough bark. The smooth slab that forms the feeder roof is a perfect base for a game of "King of the Castle." One perches on the roof and the others attempt to dislodge it. Giggling chuckles and a variety of other sounds accompany the general scuffle. Their lack of coordination is apparent when they lose their footing and fall to the ground some six feet below. This is the beginning of a wild race for the coveted place they have so recently vacated. This game continues until they are tired out. They rest by lying prone on some horizontal branch with all four legs hanging limply.

A red fox vixen had a den among the decaying timbers of an abandoned sawmill. During their early explorations her offspring discovered the

possibilities of the sawdust pile. One side was particularly steep where some of the material had been hauled away. On the other sides the slope was more gentle. One pup would take its place at the top while the others attempted to stalk his position. The last yard or two was usually covered in a quick dash that ended in a flurry of action. The attacker made a high arching leap striking downward with stiffened forelegs. Usually the contestants lost balance and rolled together down the steep slope. At the foot they separated, dashing around the base and up the gentler slope in an attempt to win the coveted position at the top. Usually they found that one of their littermates had taken advantage of their contest and was already awaiting their arrival.

At other times the play took the form of a game of tag in which they raced around the base of the sawdust mound. All these activities took place under the watchful eye of the vixen as she lay on a projecting timber

above the den. When she left the den the pups disappeared underground. I watched their activities on several occasions from a position on the hillside some distance above. One day the vixen discovered my observation point. The next day the den was empty. She had moved the pups to a safer location

Lantern Low

The lantern that hung outside the camper where the others slept had been turned low. The limbs of the huge pine kept the dew from falling on the camp cot I had chosen for my bed. A few yards away, Brooks Run murmured sleepily over the broken traprock that formed its bed. I was beginning to doze when a clinking of overturned rocks and a low complaining brought me back to reality. I turned in my bed just in time to catch the reflection of two pairs of eyes peering over a streamside log. Reassured by the quietness, a pair of juvenile raccoons strolled boldly into the camp area.

THE FOX PUPS DISCOVERED the possibilities of the sawdust pile, sliding down the steep side and then racing back to the top.



First they investigated the water that dripped from the refrigerator drain, drawn no doubt by the odors of the food that was safely beyond their reach. They sniffed at the camp cot legs. One even stood up for a better view of my prone figure. They turned their attention to the garbage can but a tight-fitting cover proved to be secure. Failing to remove it they upset the can and turned their attention to the log where we cleaned our fish. Their keen noses led them to the pan of scraps we had placed for them. When they had finished the food they polished the pan then turned their attention to the picnic table. The flat top seemed an ideal playground.

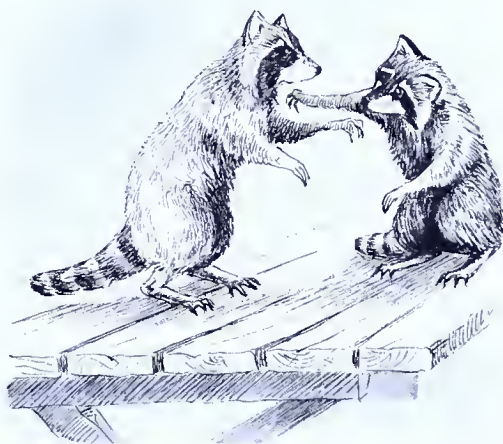
They sparred with extended forepaws, then grappled, each striving for the coveted under-dog position where both front and hind feet could operate effectively while the teeth were used to nip and pinch at the opponent's neck. They chuckled and chirred in high good humor. They rolled and tumbled until the inevitable fall to the ground separated them. One then pursued the other. The characteristic gallop is comical to observe. They stayed for well over an hour, taking time occasionally to investigate and pry like a pair of mischievous children. Each evening they returned for the handout we provided, then paid for it with their entertainment.

Primitive Joy

The primitive joy of sliding down a slope has its origin in the dim past. It is a basic pleasure enjoyed by both humans and animals alike. Man enhances his pleasure with skis, bobsleds and toboggans. Animals do well with their natural endowments. Certain creatures even dispense with the slope and use air for a slide. Observers are well aware of the enjoyment derived from this activity.

Once we were drifting down the Big Two-Hearted River made famous by Hemingway's story when the canoe rounded a bend. An adult otter and

three young were at their slide. Joe held the canoe and for several minutes we watched the play before the sharp-eyed female saw us and the family disappeared. I am sure the sounds made by this family were expressions of pleasure.



YOUNG RACCOONS finished the scraps we had placed for them, then turned their attention to the picnic table. Its flat top made a perfect playground.

I once observed an adult mink roll over and over in loose snow. It was crossing a frozen arm of the lake and was in full view for over 200 yards. It repeated this action four times before it was lost from sight in a thicket. An excess of energy seems the only logical explanation.

Last autumn I watched a young red-tailed hawk as it rode the high thermals. It stooped over 100 feet on several occasions for no apparent reason. Some psychologists claim that play is preparation for the business of life. Was this a practice session?

Newly fallen snow seems to have an exhilarating effect on humans and animals alike. A few inches of new snow that coats the branches sends a red squirrel into a frenzy of activity. He rushes from one branch to another, sending the snow flying in clouds. He seeks crotches where the snow has been heaped and strikes frantically



A YOUNG RED-TAILED hawk rode the high thermals, occasionally stooping over 100 feet for no apparent reason — but probably in play.

with his paws until tiny avalanches fall to the ground. He never seems to tire as long as the supply of snow is available.

When heavy wet snow clings to the evergreens both chickadees and blue jays will add their weight to send the

snow cascading to the ground. This action is apparently deliberate. Jays in particular become greatly excited and dash from tree to tree in seeming delight at this game.

Below the cabin is an opening in the rhododendron thicket. When crusted snow is lighted by the moon the rabbits sometimes gather here. These are no ordinary cottontails but tough woods rabbits nourished by the bitter bark and brambles of the swamp. Sometimes they number half a score. They charge at each other and then, when collision seems inevitable, one will leap high while the other passes underneath. They chase each other 'round and 'round. They cross and re-cross, their dark shapes multiplied by the shadows on the snow. They thump their feet on frozen snow in mock alarms. An hour or more they play, then suddenly melt into the thicket and are gone.

One biologist advanced the theory that this play was the result of tensions built by the struggle to survive, discharged into activity. He may be right, but who knows for sure?

Here is a field where accurate observation and report can contribute to the total of our knowledge of animal behavior.

Magnum Mouse

The capybara of South America, world's largest mouse, weighs as much as 100 pounds, measures four feet in length, and stands nearly two feet high at the shoulder.

Grandpa Goose

Some Canada geese manage to evade hunting pressure and live to a ripe old age. A bird banded at Swan Island, Maine, in May of 1951, when it was more than a year old, was recovered in New Hampshire last year in its 18th year.

One for You . . . One for Me . . .

An ant has two stomachs, one used for storing its own food, the other for storing food it shares with other ants in the nest.



LONGTIME CHUCK HUNTER Al Wardrop tests his latest high-velocity rifle on the bench. It's a bit different than a 22 rimfire!

*Of All the "Diseases" Which Befall Hunters,
None Is More Pernicious Than . . .*

Chuck Fever

By Al Wardrop

CHUCK FEVER is not the same as buck fever; it's not even a variation of it. Buck fever, as everyone knows (even if they won't admit succumbing to it!) is an intense excitement that often deprives an otherwise rational person of his ability to think and act normally. (If any deer hunter can be described as rational.) Afflicted persons often fail to shoot at big-racked deer (the bigger the rack the more likely the failure), sometimes aiming carefully and ejecting a magazineful of cartridges without firing a shot. Occasionally, they shoot a deer and then run away and leave it for some unexplainable reason.

Now, I don't list these eccentricities to be critical or to make fun of anyone. Some of my best friends are deer hunters, I indulge in the sport myself, and as Gertrude Stein doubtless would have said if she'd been acquainted with the species, "A deer hunter is a deer hunter is a deer hunter." (I don't understand that either, but it should at least get us off the deer subject and back to chucks.)

"Chuck" is short for woodchuck, which, according to Paul C. Estey, who wrote perhaps the first book on woodchuck hunting 30-some years ago, comes from the Indian name "Ot-

choeck,” which was sometimes written “We-jack.” When I was growing up the common term was groundhog. Normal enough, since the fat little animal lives in a hole in the ground, but the word seems to rub persnickety magazine writers wrong, and they have popularized the name “chuck.”

Famous Furry Critter

This has some importance, for this unassuming creature has become slightly famous. Enough so that a couple of books and countless articles have been written about him. According to some gun writers, this squat furry 10-lb. animal has done more to further the development of high velocity cartridges, super-accurate rifles to handle them, and excellent high-magnification scopes to aim with than any other target in the world.

This probably started just after the turn of the century when in his book *The Bullet's Flight* ballistician Franklin W. Mann described his lengthy efforts to construct a good chuck rifle.

I don't know how much this project was pushed in the next few decades, but starting in the '30s, after the appearance of the 22 Hornet cartridge in commercial loadings—which meant the ordinary shooter could get an accurate outfit with plenty of power for chucks to 175 yards or so—the outdoor magazines started giving coverage to chucks, methods of hunting them and the best equipment for so doing. The practice is still going on—with good reason, as there are literally hundreds of thousands of avid chuck hunters in the country. (Fact is, I sometimes think there are that many in Pennsylvania alone!)

Oh, you're curious about the two books mentioned earlier? One was Estey's *The Woodchuck Hunter*, published by Small-Arms Technical Publishing Co., Onslow County, North Carolina, in 1936; the other, *Woodchucks and Woodchuck Rifles*, by Charles S. Landis, whose family was native to central Pennsylvania, was published in 1951 by Greenberg, New

IN THE 1920s the late Jim Varner and a shooting buddy used 30-06s with Winchester A5 and Belding & Mull scopes for chucks.



York City. Both may now be out of print, but are excellent references if you can find copies.

One effect of these books and the numerous articles was to make hunters conscious of the chuck as a game animal, rather than simply a pest, as he had been considered. Where formerly a lot of people wanted to eradicate him, shooters now wanted to hunt him in a sporting manner. They wanted to keep his numbers under control—that is, to lessen the chuck population in areas where they were nuisances to landowners—but to do this in a manner that would test their shooting ability. And they wanted to leave enough of the little animals to make breeding stock for the following summer's shooting.

Shooting vs. Hunting

The equipment used commonly in earlier days was not suitable for this newer type of shooting. The farm kid's 22 rimfire rifle with open sights, good for Injun'g up along a fencerow and taking the quarry at 5 to 25 yards, was just not the answer when the rifleman wanted to connect at 250 to 500 yards. This new group of shooters was just that—*shooters*. They were not hunters in the old sense of the word. They got satisfaction only from locating a chuck at long range, usually with the aid of binoculars or spotting scope, and then doing their best to place a single shot with utmost precision, striving for a clean kill despite the unknowns of range and wind.

Some oldsters still do not approve of this method. They claim no real hunting is involved, that anyone can hit unsuspecting chucks at long range if they have the high-falutin' equipment now popular. The argument seems logical, but I don't go along with it simply because direct observation doesn't bear it out. Sometimes it's easy to spot chucks at long range, but often it isn't. It usually takes concentrated systematic effort with the binoculars, effort that the short-range



IN THE LATE 1930s, Weaver 330 scope on 270 Winchester served this chuck hunter well, though 2½X magnification limited effective range to about 200 yards.

hunter knows nothing about. Finding a portion of a chuck's head just above a rock fence maybe 350 yards away is no easy chore, even with binoculars. Most people, even if they saw it, would take it for just another rock. Then after it's found, the long-range chuck hunter takes time to be *positive* that it's a chuck he's watching, not another hunter's crewcut head. To be certain, he waits and watches until the animal moves up on the rock fence in plain view, which it almost invariably does if given enough time. If, after this happens, there is a safe backstop behind the target, then and only then does the specialist begin to get ready to shoot.

He has already given considerable thought to the range problem. While glassing any area, even before a possible target appears, the long-range



FROM CONCEALED position, Cumberland County chucker tallies many far-off marmots with his wildcat 6mm rifle topped by 10X Lyman scope.

shooter automatically estimates distances to various terrain features—perhaps an old stump, a ledge of rocks or an overgrown corner of fencerow which looks chucky. The commonest way of doing this is by mentally dividing the area into hundred-yard units and adding them up. Sometimes it's easier to pick a halfway point, estimate the distance to that and double it. After he has had a few shots over given terrain, the hunter learns pretty closely where to hold, simply by seeing where his bullets strike with a given aiming point. Once he has had the opportunity to do this, range is no problem in this area, as he has it plotted, either in memory or in a notebook. (It is this professional approach which bothers some old-timers who prefer to take things more casually. At the same time, it is these facets which interest the more technical minded shooters of today, and which contribute toward our "chuck fever.")

This method of estimating range is

open to considerable error, particularly in strange country. It's common for a shooter to be off 100 yards or more when dealing with targets a quarter mile distant. To help avoid this, many chuckers use various devices as rangefinders. The commonest probably is the scope reticle. If you know what measurement a scope reticle covers at a given range and have a close idea of the size of your target, it's possible to determine the range fairly well by comparing the reticle to the target. For instance, suppose you have a center dot that covers three inches at 100 yards and you estimate that a feeding chuck is six inches high at the shoulders. If the dot just covers the chuck's depth, the range is close to two hundred yards. This is determined by dividing the dot's size, three inches, into the chuck's size, six inches, with the answer (2) being the range in 100-yard units.

Rangefinding Difficulties

Of course, animals of the same species do vary in size, and in practice it's difficult to determine exactly how the target compares with the reticle, but even so results are usually far better than an estimate made with no reference at all.

More complicated rangefinders are made—you can get exceedingly accurate ones if you're willing to pay some thousands of dollars and deal with the problem of transporting hundreds of pounds around—but most chuck hunters settle for the methods just described. Perhaps they don't want to go to the ultimate in efficiency here, preferring to train themselves on normally available equipment. This training readily transfers to other hunting, such as long-range deer shooting in December.

Chuck hunting specialists do go to the ultimate in their shooting equipment, though. Here's where the term "chuck fever" comes from. It's the minor madness that drives a shooter to extremes in finding the exact rifle/

cartridge/scope combination for the proper sniping of these small targets in his particular hunting area.

Three decades ago when Estey wrote his book the 22 Hornet was the most popular woodchuck cartridge and the 220 Swift had just been announced. Now both are obsolete. A decade and a half ago, Landis, a chuck shooter of great experience, plumped for a 17-caliber cartridge he designed, and also gave much space to the famed 219 Donaldson Wasp. Literally hundreds of other cartridges, mostly wildcats (non-standard, privately developed loads), have appeared on the scene since then. Most gave acceptable accuracy, velocity, noise level, etc. Still, practically all are forgotten today.

Shooters have learned that minor variations in case shape (the only difference among many wildcats) have little effect on ballistics. For a given caliber, a given case volume delivers pretty much the same velocity, regardless of shoulder angle or style or whatever. So today's chuck shooter picks a cartridge that will give flat trajectory over the ranges he hunts, then concentrates on getting tack-driving accuracy from his outfit.

Here's where the fun comes in.

Accuracy . . .

Accuracy, basically, is a function of excellent barrels and excellent bullets. Shortly after WW II, shooters trying to test loads for accuracy soon learned they were actually testing bullets. Not cases, powders, barrels or anything else, but just the projectile that comes out the muzzle when the trigger is squeezed. Most commercial bullets would not give the demanded group size, so chuck shooters started swaging their own jacketed bullets. (Today's well-known RCBS Reloading Company gets its name from the Rock Chuck Bullet Swage, its first popular item. A rock chuck, incidentally, is a Western groundhog . . . oops . . . woodchuck!)



THIS IS THE VIEW that's familiar to Pennsylvania's countless chuck hunters—crosswires centered just behind the shoulder of his elusive target.

Good Bullets Available

Eventually, a number of custom manufacturers started producing bullets equal or superior to the handmade ones, so this practice declined.

To make certain each bullet left the gun at close to the same velocity (they're never exactly the same except by accident), which contributes considerably to accuracy and is dependent primarily upon the amount of propellant used, long-range chuckers hand-loaded all their ammo, weighing powder charges to perhaps plus or minus 1/10 grain (1/70,000 of a pound either way). This is much more consistent than factory loads, which are charged by volume, not weighed. This procedure might reduce group size by a half minute of angle. Not important, you say? Friend, that's two inches at 400 yards—enough to cause a miss with a perfect hold!

To reduce barrel vibrations (that steel tube whips around like mad when a cartridge is fired), chuckers made them heavy, sometimes 1¼" at the muzzle, with ¾" or ⅞" being common. This not only helped pure accuracy somewhat, but the inertia also made it easier to hold the rifle steady. And this was necessary to keep the apparent



A HUNTER suffering from chuck fever will gladly spend a day to get one safe long-range shot. His goal is ultra-precision, not a large bag of woodchucks.

jiggle of the cross hairs in the big 12X to 20X target scope from driving them batty as they tried to aim on a little old chuck four or five football fields distant. For, you see, only a high-grade top power scope could take

advantage of all the accuracy inherent in their pet loads, making it common to clobber chucks at the extreme distances they like to shoot over.

Other refinements were believed necessary too. For instance, stiff bolt actions that could handle the high-pressure loads. Double-set triggers or fully adjustable single triggers that could withstand normal handling and yet be released with less than a pound pressure. High-combed cheekpiece stocks that fully supported the face and made aiming comfortable.

Admittedly, these rifles aren't suited for a long day's hike in rough deer country. But for a few hours in a chuck pasture of an evening, nothing beats 'em. This is specialized hunting, and these rifles are the tools which evolved for the job. They vary somewhat from one to another, according to the owner's ideas, experience, pocketbook, etc. Possibly the differences give an accurate reflection of just how serious was each shooter's case of chuck fever!

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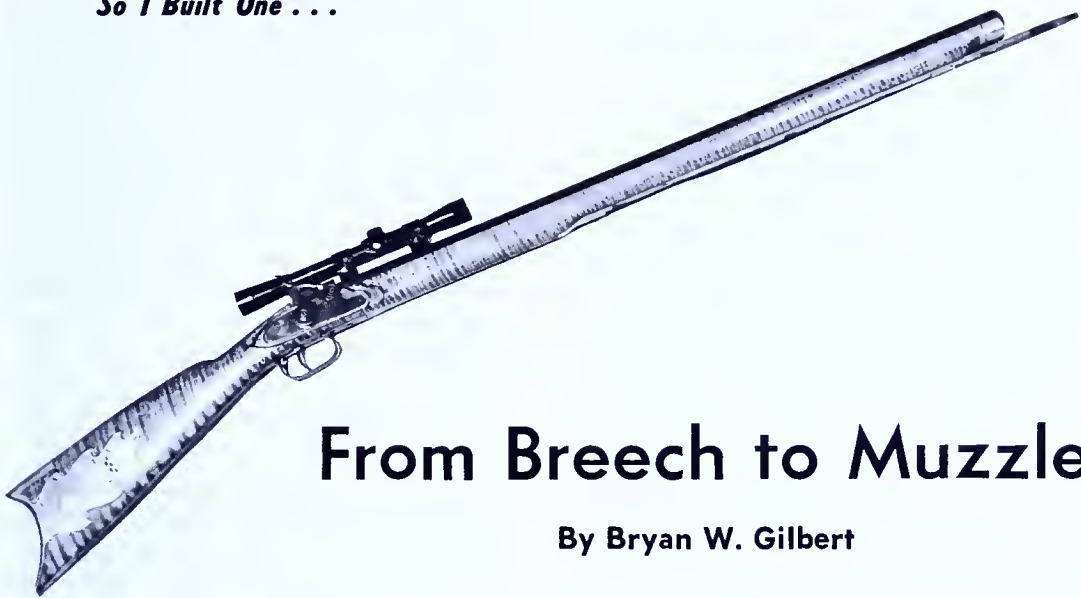
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***I Wanted a New-Old Deer Rifle—
So I Built One . . .***



From Breech to Muzzle

By Bryan W. Gilbert

UNTIL THE LATE '20s, we hunted deer in the drainages of Beaver, Canoe, Deer and Piney Creeks; also that area that lies south of the Clarion River from what is known as the "Canada Tract" to the mouth of Piney Creek. This meant a walk of three to six miles from our home near Blairs Corners (in Clarion County), and I recall the many times in those early days that no deer were observed. But after about 1925, deer seemed to take hold in the areas mentioned.

The first deer rifle I ever used was my father's 32-20 Marlin. This same gun was also used by my brother Bill until 1922, when he bought a rifle of his own. He shot his first buck that same year. In 1923, he again connected. I also shot my first buck the same day with Bill's gun. In 1925, I bought a 300 Savage takedown featherweight. This gun has downed a lot of deer and will always rate high as a cherished possession.

As the years rolled by, I bought and used different guns and calibers for deer and bear. These included Winchester's M55 and M94 in 30-30, a 35 Remington M14, a 30-40 Krag, a

22 Savage Hi-Power (sometimes called the Imp), a 303 Ross, and an "as issued" 30-06 Springfield. Several years ago, I decided to lay the high powers aside and venture into an entirely new phase—or rather, I should say, a new phase to me, for actually the rifle type was old. I was determined to build and use a muzzle-loader.

A lot of time, thought and study went into this new venture. Many articles, written by experts and serious muzzle-loader shooters, were read and re-read, with hopes of a direct guideline as to caliber and type that would be best for both target and hunting. I found no positive guide. Some of the top target shooters use calibers into the 50s, while others use the smaller 30s and 40s for hunting.

I decided on a 40-caliber, reasoning that an "in-between" size might be best for what I had in mind. I was reaching, at least hopefully so, for a gun with both target accuracy and, with a reasonable load, energy enough to kill a deer. I further reasoned that somewhere along the line an accurate load would be attained through trial and error. But just what would hap-

pen to accuracy when loaded beyond this level, as probably would be necessary for hunting efficiency — well, I was about to cut my eye teeth.

I bought the barrel from a well-known manufacturer. Its rifling is .010" deep, the eight lands are equal in width to the grooves, and twist is one turn in 48". Externally, the width across the flats is 1". The "action" is percussion, of the bolster type. I designed and machined the bolster and action. All steel parts are made of No. 4130 steel. Where needed, parts are heat-treated. The buttplate, patch-box, thimbles, nose cap and other fittings are of brass. The full stock is curly maple. I purchased a well-seasoned plank from a local lumberman and had the blank profiled at a local pattern shop.

After many hours of cutting, fitting and shaping, I came to feel I was attaining my hopes for something of beauty. The wood was shaped in detail to follow the lines of the old-time

ACCOUTERMENTS of the muzzle-loader shooter include powder horn (here with adjustable measuring device), projectile starter and bag for carrying lead balls.

Pennsylvania Rifle (often mistakenly called a Kentucky Rifle). After a series of sandings with many grades of garnet paper backed up with a pad of thick felt, the stain — equal parts of cherry and walnut water stain diluted to about $\frac{1}{3}$ strength — was applied. This was allowed to thoroughly dry and then the wood was sanded lightly. This procedure was repeated three times. Finally, the stock was finished with boiled linseed oil (not the so-called linseed with drier).

Scope Mounted

All steel parts were blued and the gun was assembled. Because of the condition of my eyes, a scope is necessary if I'm to shoot. I mounted a 4X model low on the barrel, using detachable mounts.

Perhaps I should mention at this point that I made the barrel 32½" long. I used the short cut-off length to experiment with ball diameters and patch thickness. A .395" ball patched with .020" ticking and lightly greased with mutton tallow gave a good patch impression between ball and lands. There was also a good fold between the lands, as evidenced by dark wiping streaks. Nevertheless, I was not sure what results would be when this ball and patch combination was actually subjected to actual firing. A short starter was necessary and is a part of my equipment.

Having carefully cast a batch of pure lead balls .395" in diameter and cut a good supply of .020" ticking, I was rapidly approaching the trial run. Using FFFg black powder, I carefully weighed a series of charges of 25, 30, 35, 40, 42, 48, 55, 60 and 67 grains. I then took my outfit to the range. My aiming point was a 50-foot pistol target set up at 50 yards. Shooting was from benchrest. For no reason whatsoever, I loaded with the 42-gr. charge first. With the patched ball seated firmly on the powder, I placed a Remington No. 11 cap on the nipple and was ready to "smoke up the hillside."



The first shot missed the target but hit the backing board at 11 o'clock. To my surprise, the ignition seemed just as fast with a breechloader. The patch was found about 15 or 20 feet from the bench. No holes or leak burns were in evidence. A moist patch was run in the bore several times, and then a dry one. Sight corrections were made and I readied for shot No. 2. This one hit at 11 o'clock in the black. Corrections were again made and five rounds were fired, using a moist and dry patch after each shot. This group measured only $\frac{7}{8}$ " from outside to outside, all 10s!

This is less than two minutes of angle, and a lot of modern rifles won't do this good. On a quiet day, I can hold 3" groups at 100 yards using the 67-gr. load. The 25-gr. load is just as accurate at 50 yards as the 42-gr. one. This is the load I use for squirrel. I have shot a number of grays with it, and with few exceptions, all were head shots. I hope to use it on turkeys this fall.

First Deer Taken

I had enough confidence in my smoke burner, with the 67-gr. load, to carry it for deer and bear, but had no opportunity to make a big game kill until the 1966 antlerless deer season. The deer was about 40 yards away, running smoothly. I held on the shoulder. When "Betsy" fired, the deer went down on her nose and knees but immediately got up again. She ran about 75 feet and folded up. The ball entered just about the middle of the rib cage and came out the other side at the same level. When field-dressed, I observed that the lungs were both well torn. There was absolutely no meat damage. I do not recall ever making a cleaner kill with any other gun.

I had hoped to find the ball to observe the degree of distortion as compared with that of wood penetration, but this was impossible because of the complete penetration. I did have



AFTER SIGHTING SHOT at 11 o'clock, scope adjustments were made and five round balls were fired into $\frac{7}{8}$ " group at 50 yards—excellent accuracy!

a chance to do this during the 1967 season. I was not fortunate enough to draw a bead on a buck, but I was in possession of an antlerless permit for Warren County. On the last day of the season, I drove to the home of Maurice Tompkins, a close friend who lives at Selkirk. As Maurie, his wife and I talked over a cup of hot coffee, he gave me the dope on the most likely spots that might produce venison.

Ready at Sunrise

I was on location at sunrise and relaxed on a white oak log until about 11 o'clock. However, I saw only one deer, a buck with a fair head. I returned to Maurie's shop, had a lunch and hot coffee and decided on a different stand in a brushy area. This one was more to my liking, as I am a thicket hunter. Just at the edge of this thicket, I had command of a point and two small ravines. Nothing happened until about 1:30, when a lone doe came off the point—and was she really laying 'em down! However, she made the mistake of stopping suddenly and turning broadside at about



CLEAN, ATTRACTIVE details of hand-made lockwork and brass patchbox are apparent in this view of rifle.

60 or 70 yards. I held just back of the left shoulder. When I touched off "Betsy," that deer *took off* for other parts of Warren County! But she went just seven jumps, reared up on her hind legs, spun around and collapsed.

My first interest was where she was hit. Then I wanted to know if the ball had gone through. I found the point of impact and was well pleased. And when the deer was turned over, there was no exit hole. While field-dressing the deer, I carefully examined the projectile's path and the damage it did. The ball had hit a rib, nearly severed the heart and had penetrated the opposite rib cage.

This deer was nice and fat and weighed in the 125-lb. class, I estimated. A 15-minute drag, on wet snow, and I had my deer lying in Maurie's shop. Both he and Mrs. Tompkins were very elated that my hunt—in new territory and with my muzzle-loader—had paid off.

M-L Ball Adequate

Upon final dressing, the ball was found. It was well flattened, a near twin to a ball that I had recovered from one of my penetration tests. This test ball had gone through three inches of good pitchy yellow pine and then into a green apple stump. Perhaps such an energy test would not rate too highly with the slide rule boys, and I'm quite sure there are more accurate

means of determining "push," but from what I have observed and learned from two separate big game kills, there is no longer any doubt in my mind that a well-placed shot from a 40-cal. muzzle-loader charged with 67 grains of FFFg black powder, will stop any whitetail that will ever roam the land.

My venture into the muzzle-loader field has certainly given me a lot of satisfaction. Perhaps my own personal



BEAUTIFUL TIGERTAIL grain of maple stock shows here. Note early design of cheekpiece.

"research" has not revealed anything new to the boys who use the smoke burners, but to those who are about to try the cap and ball, I can only express my honest opinion, the same opinion that I give a friend who is interested in a custom '06. Do not start with junk, and in the case of muzzle-loaders, do not get discouraged until the gun has been "fitted" with the correct ball diameter, the right patch material and thickness, the proper powder charge and patch lubricant. *Do not use any propellant but black powder in a muzzle-loader.*

It is not an impossibility that I may build a flintlock, but for the time being I will continue my type of research with what I have. Perhaps it will be found that my 40-cal. rifle has a better accuracy potential than is known thus far. As for energy, there is no question.

Camp Cooks—Beware!

By George R. Stahl

THE CRY, "Come and get it!" brings a fast reaction in most hunting camps, whether the cook be a hired pro or a drafted rookie. And just as long as the grub is nourishing and plentiful, we don't overly concern ourselves as to where it originated or how it was prepared.

Well, perhaps we should.

"Why?" you ask, and shrug. "What you don't know won't hurt you."

Unfortunately, this is not always true. Food poisoning is a constant threat. Ruthless and indiscriminate, it lurks in your camp kitchens, ready to strike the minute your food handlers lower their guard. However, this unwelcome visitor can be given the cold shoulder if you arm yourselves with a few basic facts and precautions.

Food poisoning, also known as gastroenteritis, is a term used to cover infections and intoxications caused by eating infected foods. It is often characterized by vomiting, abdominal pain, diarrhea, chills, and prostration. These symptoms usually occur from four to 12 hours after ingesting the food, although the extreme limit may be from two to 72 hours. There are two major types of food poisoning:

A. Staphylococcus ("Staph") Intoxication—The staphylococcus bacteria produce endo-toxins which in turn cause the poisoning of the food. Neither bacteria nor toxin gives the food an off flavor or off odor. These organisms are quite common, being found on humans and in the air. Pus-infected wounds, boils, etc., are prime sources, especially when on the hands or arms. They grow best in certain foods such as cream-filled pastries, dairy products, salads, puddings, dressings, custards and meats. The attack usually occurs from two to six hours after eating the food. It is seldom

fatal. Cooking kills the bacteria but will not destroy the toxin.

Precautions

1. Do not allow food handlers with infected sores, etc., to handle foods.
2. Keep foods either hot (140+ degrees F.) or cold (below 40 degrees F.). Toxins do not develop at these temperatures.
3. Have food handlers wash and sanitize hands before handling food.
4. Wash, rinse and sanitize dishes and utensils as follows:
 - a. Wash in warm, detergent water (110 to 120 degrees)
 - b. Rinse
 - c. Sanitize in hot water (170 degrees for two minutes) or sanitizer solution (chlorine, iodine, etc., for two minutes)

B. Salmonella Infection—This type of food poisoning is caused by the salmonella bacteria which come from the fecal contamination of birds, animals, mice, rats or humans. Humans are very often carriers, harboring the salmonella but not showing any symptoms. Here, too, no bad odors or off flavors are noticeable. The foods involved include: meats (especially ground meats and pork), fish, poultry, egg products, milk, sauces, custards, dressings and baking products. Usually it takes over 12 hours after ingesting the food for the victim to be stricken. This type is generally more severe than the "staph" but usually not fatal.

Precautions

1. Don't allow sick people to handle food.
2. Have food handlers wash and sanitize hands before handling foods.
3. Wash and sanitize dishes and utensils.
4. Rid camp of mice, rats, and in-



sects. Bury garbage, remove trash piles, make cabin rodent and insect proof.

5. Cook foods to 170 degrees F. (internal temperature) to destroy bacteria. Keep foods hot (140 degrees F.) until served.

6. Refrigerate food below 40 degrees F. immediately after cooking if it is to be held for future use.

7. Keep the equipment and food preparing surfaces free of cracks and clean, as bacteria will grow in a crack stuffed with food.

8. Store non-perishables in tight containers. Keep foods covered.

Botulism

Botulism is another form of food poisoning. It occurs infrequently but is usually fatal unless an antitoxin is given quickly. The bacteria, clostridium, is the cause, producing a toxin in the absence of air, such as improperly canned foods. Canned string beans, spinach, chard, corn, olives, fish and meats are the common foods involved. The symptoms include double vision, difficulty in swallowing and loss of appetite. Reaction time varies from one-half hour to three days. Meats will show a rancid, putrid odor but vegetables contaminated with this bacteria may have very little off odor.

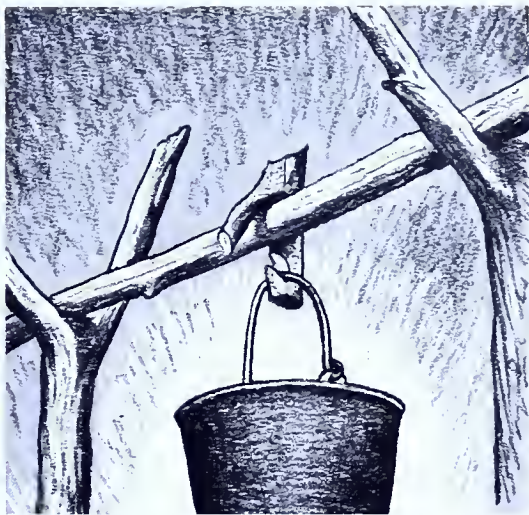
Precautions

1. Check canned foods carefully, especially home canned foods, for bulging, off odors, etc. If suspicious, throw them away.

2. Boil canned foods for at least ten minutes before using.

Chemical Poisoning

Chemical poisoning is caused by the accidental introduction of chemicals into the foods, eating of unwashed sprayed fruits and vegetables, or the reaction of acid foods with a metal



COOKING AT 170 degrees or higher (internal temperature) will destroy bacteria, prevent many problems.

container. The symptoms can start within a few minutes or in several hours. Vomiting and nausea usually occur.

Precautions

1. Keep insecticides and rodenticides away from food areas.

2. Thoroughly wash fresh fruit and produce before eating.

3. Do not use any of the following type cooking containers or utensils:

a. Gray enameled chipped — can produce antimony poisoning.

b. Cadmium plated — can produce cadmium poisoning.

c. Galvanized iron — can produce zinc poisoning.

d. Soldered seams — can produce lead poisoning.

All of us look forward to those relaxing days at camp. The fellowship and change of pace do more for our systems than any tranquilizers ever could. Let's not ruin our stay with a miserable dose of food poisoning. And believe me, the threat is far greater than you would imagine.

Straw, Anyone?

Pigeons are the only birds that can drink by suction.



Spunky Little Speedster

By Wilbert Nathan Savage

TRESPASS within the boundaries of a red squirrel's territory and you're apt to hear a sputtering monologue of explosive accusations aimed at intruders one and all. With his metabolism ready to rip a stitch, the fidgety little member of the *Sciuridae* family may even become so enraged that he'll stamp his feet while his tail jerks frantically to the rhythm of his fury. All this means that he wants you to *get out* of his domain via the fastest route to way yonder!

The year-round habitat of a red squirrel is often limited to less than an acre, but once bent on a fiery lecture Br'er Reddy may follow you well beyond the borders of his estate. If a shot or two has recently been fired in the area, he'll likely turn shadow-spook and scold only from calculated out-of-range positions. Or, if peril is too conspicuous, he may even remain silent and thus artfully recommend that you accord respectable rating to his personal brand of discerning wildness.

If the red squirrel excels in anything to a greater degree than making brisk conversation, it must be eating. He relishes a variety of foods ranging from nuts to bird eggs, and finds particularly tasty the cone seeds produced by various evergreens. He even has a sweet tooth. When spring-urged sap is coming up in the sugar maples, he often punctures the topside of a branch and laps from the sweet fountain.

Reddy is also a practiced connoisseur of wild grapes, berries, cherries, bark, young birds, corn, insects and mushrooms. He's so fond of the latter that he sometimes digs for subterranean types. For future snacks the diminutive chatterbox habitually places some of his fungi delicacies in tree

forks and other natural drying racks. He even likes to impale a few on convenient twigs. Jays and other birds frequently raid his open-air pantry. Remarkably, the mushrooms commonly eaten include the fly and the destroying angel, both mankillers to which little red is totally immune!

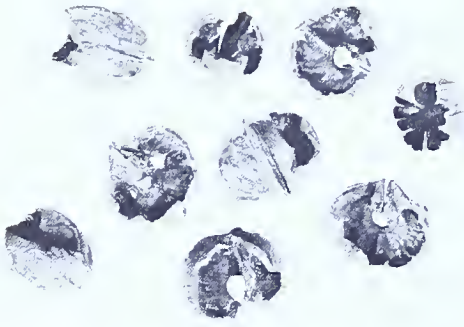
The red squirrel's storeroom for nuts, pine cones, seeds, and other forms of nourishment may be a cavity in a tree trunk, underground chambers, or surface buildup of carefully arranged foodstuff that is called a "midden."

Large Food Cache

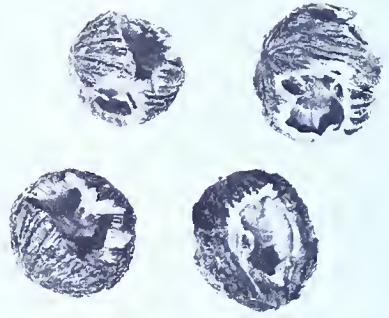
Unlike the gray squirrel who usually hides one nut in a place, the red labors toward a large cache of food plus a number of small ground-storage "bins" containing one-fourth to one-half pint of seeds, acorns, etc. Interesting indeed is the fact that the minute mammal almost never stashes one kind of seed or nut with another, but systematically keeps them separate in each hideaway pocket. As an example, he may begin his storage pattern by placing hazelnuts only in the first underground cell, acorns in the second, beechnuts in the third, etc.

The peak of mating activity for red squirrels occurs during March, and the gestation period is approximately 40 days. At birth a red squirrel is naked and weighs scarcely more than one ounce. It remains blind for about 27 days. Two to seven is the quantity range for a single litter. The maternity ward may be quarters underground, a deserted woodpecker's hole, or a globular aerial nest woven of such materials as moss, bark, dry grasses, twigs, pine needles and leaves.

In a week or so a baby red starts to acquire a covering of downy hair. The



RED SQUIRRELS normally gnaw a hole in each side of hickory nut to remove kernels.



KERNELS are efficiently removed from black walnuts by red squirrels, as shown above.

mother generally weans her offspring about the fifth week, but will watch over them for quite awhile thereafter. Although young red squirrels mature rather slowly, a second litter may be born in very late summer or early fall. This would seem to indicate that second litter young may at times encounter the baffling rigors that often go with wintertime survival problems among wildlife.

On the ground, an adult red squirrel can easily do a seven-foot broad jump; and in leaping from tree to tree, with downward course and angle favorable, he can travel a prodigious distance! He always comes down a tree trunk headfirst, with each foot being used independently. The rear feet act as brakes. Rarely does he lose his footing and tumble to earth. When he does, he's almost never injured by the experience.

Many Enemies

In order to count his enemies the red squirrel has to use all of his toes, and then some. The mink, weasel, fox and wildcat are very fond of his flesh. Black snakes eat his young. Hawks and owls find him tempting at all times. He's an excellent swimmer, but whether he's in the water for a short dash or a marathon mile, he may be pulled down by a snapping turtle, pike, or other large fish.

Roughly six inches smaller than his gray cousin, and the smallest tree-

climbing squirrel in his range, the red is easily recognized by his rufous color and whitish underparts. The ears in winter have dusky red tips, a characteristic that makes the little animal the only eastern squirrel so adorned. Each eye, superbly keen-sighted, is outlined by a ring of white.

When cold weather arrives, the red squirrel's sides lose some of their rusty-red pigment and take on a smoky olive-gray that sometimes shows a faint dark stripe. The underparts may also appear darker in winter because the white belly hairs become seasonally tipped with black.

Fierce winter storms may drive him into his den, but plucky little red doesn't hibernate — no matter how polar his surroundings. Neither does he migrate, except under very unusual circumstances, and he has been seen frisking about with the temperature standing at a bitter 30° below zero!

When deep snow covers the ground, busy red often turns burrower and constructs long and complex tunnel systems under the snow. Amazingly, these sheltering white-walled labyrinths usually form a passageway link to most or even all of the trees in an individual's woodland "holdings."

A red squirrel will fight savagely in defense of his territory if need be. The "chittering" call of one red is often answered by another. Each is thus made aware of the other's boundary lines, with notice being simul-

taneously served to respect the same.

If he manages to avoid battling unto death with an aggressive neighborhood squirrel, if he escapes the wiles of predacious man and beast, and if his sharp incisors remain in good condition, the red squirrel may live to be as much as nine or 10 years old. But he usually starts to show definite signs of age by the fifth or sixth year.

The bustling eastern red squirrel has to live with the burdensome scientific handle, *Tamiasciurus hudsonicus loquax*. The Chippewa Indians appropriately called him *Adjidauma*, meaning "Tail-in-the-air." Naturalists of note have called him by various names, some uncomplimentary and indicting.

Perhaps he does devour a few young birds. But the claim that he chases gray squirrels off their feeding grounds can hardly be labeled accurate when professional wildlife study teams have observed that it is the grays who control the best food sources and leave marginal zones to the red. Certainly, as the defendant, the wiry speedster has a side to be made known. He makes a few random plantings of nuts each year. Trees resulting therefrom should establish at least a couple of points in his favor. Then there's the case for sympathy. This calls for presentation of the fact that he has often had his skin stretched—at 15 to 20 cents per pelt. And how about all those times of utter chagrin when he finds himself in the skillet alongside his more robust brethren?

Even if he will brazenly steal sunflower seeds and corn from your garden, even if he is impudent, petulant, meddlesome, impetuous, and just plain exasperating—I somehow prefer to bargain with him on his own terms. I



Photo by Leonard Lee Rue, III

ADJIDAUMA—the Indian name for our red squirrel—appropriately enough means "Tail-in-the-air."

admire his spunk, his resourcefulness, his industry, his determination to fill a woodland need for symbolic wild utterances. I even admire him for being smart enough to always gnaw into a nut so as to strike the kernel broadside and thus easily extract it.

But any voice in his defense must stress the most important truth of all: the woods just wouldn't be the same without that zealous little sentinel, that haunting treetop fixture—T. H. Loquax, Esq.

Quick Quacker

Canvasback ducks have been known to attain speeds of 94 miles per hour.



W. J. K. K.



HAWKS

*across
Pennsylvania*

By Ron Jenkins

The Goshawk

(*Accipiter gentilis*)

TWO piercing red-orange eyes conveyed the message to his brain. A quivering tenseness flowed through his two-foot long gray shape as he prepared to launch himself. The entire sequence consumed but a flicker of time; he was gone, like a gray ghost.

Brief moments later the goshawk was standing over the limp form of a rabbit that had chosen the wrong moment to move from the camouflaged safety of his squat.

Rabbits are prolific breeders, and nature has placed the goshawk squarely in their path, perhaps to reduce the odds on a population explosion. Thus, rabbits provide food for one more form of life that interests us. A life form that was made for killing, admittedly—for it must do so to survive. Consider this when next you hear of the goshawk as a killer of game. Few cripples escape the grasp of his inch-long talons.

Goshawks may be seen on our flyways in the fall, but not in great numbers. They are not numerous in Pennsylvania, and they keep to the more secluded timber areas. Goshawks are secretive, but when you near one's nest site, he will become aggressive and quite vocal.

An average goshawk brood is three or four young. Young birds are brownish above with brown-and-white

streaked underparts; adults, blue-gray above, and white with faint gray cross markings below. Goshawks have rather short rounded wings, and a long tail which enables them to maneuver through underbrush with ease.

Their flight is deceiving. With four or five quick wing beats and intermittent sailing, the goshawk closes the gap on flying birds rapidly, while to an observer it appears to be only half-trying.

Large heavy feet lock on a victim, and with unfailing perseverance, the goshawk is quite able to tussle over and over on the ground with whatever prey it encounters. Its long legs enable the gos to move quickly on the ground, through thick tangles, after prey.

Though not protected in Pennsylvania, the goshawk deserves a better break than shooting. Where these great raptors become a problem to farmers it would be far more humane to live-trap them, after the young are fledged, and transport them to another area.

Once you have learned to marvel at the goshawk's perseverance and enjoy his dashing flight, you will be willing to share his hunting territory with him. Be content to merely look up when you hear his call. You may never see him again.



MOUNTAIN LAUREL HELPS BEAUTIFY the right of way which was cleared for a power line in central Pennsylvania.

Do Herbicides Affect Game?

By W. C. Bramble, Ph.D.

Dean of Forestry Department, Purdue University

WIDESPREAD PUBLICITY given during recent years to the possibly deleterious long-range effects of various herbicides and pesticides has caused much public reaction against them. Everyone interested in the outdoors undoubtedly is aware that agricultural chemicals are used to a considerable extent in plant and insect control, and it is not unusual for hunters to make such sweeping statements as: "Chemicals are killing off all the game," or "There isn't enough game left to make hunting worthwhile." To the hunter who has had a solid streak of bad luck, these comments might seem valid. However, other, perhaps less interesting, factors also affect hunting. These include expanding populations with their resultant urban sprawl, water contamination, and just plain bad hunting practices.

Herbicides, which are defined as chemical agents that inhibit or destroy certain plant forms—weed-killers, in common parlance—apparently do not have this effect on game. One researcher, a professor of agronomy at a large university, has been quoted as follows:

"There are no known cases of actual herbicidal poisoning from field application of presently used herbicides marketed as non-poisonous. There is no sound toxicological evidence available for the presently publicized nitrate-, phenol- and nitrite-poisoning idea as a common cause of death. True, nitrate and nitrite poisoning has occurred in cattle, sheep and swine, from eating plants grown on high nitrate soils or from other feed sources. None of these, however, have been definitely traced to or shown to be caused by herbicidal treatment."



SPARSE plant cover in nearby woods supplies little food.



BRACKEN, sedge and blueberry grow in cleared area, make game food.

This investigator's two-year study concerned livestock and herbicides in this relationship, but there are strong implications for the sportsmen and their interests.

In the spring of 1953, W. R. Byrnes, associate professor at Penn State, and the author began a large-scale test of common brush control techniques on a section of power line right of way in central Pennsylvania. This section was located on State Game Lands (where herbicides may be used experimentally). The test areas were located on the eastern edge of the Allegheny escarpment at an elevation of 2000 to 2100 feet. The forest cover, dominated by mixed oaks, in Pennsylvania is commonly referred to as the oak-hickory forest type.

The major objective of the study, originally set up as a five-year program, was to compare the effects of several common commercial brush control spray techniques and learn their effect on game food and cover. This included following closely game usage at the treated area, as well as observing the effectiveness of the original treatment with and without subsequent sprayings. Particular attention was paid to the development of a stable plant cover on the power line right of way.

A year before the study was begun,

the area was cleared so that one growth season had elapsed between cutting and test initiation. Six control areas were established, using various accepted and common commercial methods. Each method covered a half-mile section of the three-mile test area. The methods used were:

Area A was an unsprayed check area;

Area B was sprayed with 2,4-D plus 2,4,5-T at a 4-pound rate per 100 gallons of water;

Area C was 2,4-D plus 2,4,5-T at a 6-pound rate in oil and water;

Area D was 2,4-D plus 2,4,5-T at a 12-pound rate in No. 2 fuel oil;

Area E was 2,4,5-T spray at the 12-pound rate in No. 2 fuel oil.

The toxic effect of herbicides, dermal or oral, with regard to livestock, has already been researched by several people. Their conclusions have noted that normal dosages are not toxic to game animals. This statement is not designed as blanket coverage for all chemicals, but 2,4-D and 2,4,5-T series have had no effect on animals at normal rates. Labels should always be read carefully for notation of toxic effects before using any chemicals. Our concern was the destroying of game food plants and the actual change of the landscape, plant-wise.

Our animal life thrives on plants

that are small and chewable. An older forest that contains a heavy canopy of trees does little for game food. Game searches the open forest areas where smaller plants have found enough light for establishment. Thus it was our feeling that weed control of a right of way would not only provide the needed clearance for the utility, but give an additional feeding area for game.

Many sportsmen become wary when they see the browned-out areas characteristic of chemical spraying, and they believe all game has now been driven out of these places. The fact is that the browned-out plants will soon be gone and in their place will grow young low ground cover. Utility companies are desirous of low ground cover because maintenance personnel can move easily through it. The utilities' concern are the tall, growing trees that prevent easy movement and interfere with overhead power lines. If overhead transmission of power or underground pipe lines are necessary in our society, then we must agree to their maintenance. The question which

then concerns sportsmen is how this maintenance can be handled effectively and satisfactorily.

Study 13 Years Old

The study is now 13 years old, having been maintained far beyond its originally planned 5-year length. We feel it has added greatly to our knowledge of the subject. Today the right of way is still clear of heavy, woody plants and is receiving continual usage by game as a feeding area.

The plants that grew into the area after spraying were bracken fern, sedge, sweet fern, blueberry and, on the sides, bear oak—all utilized by game as food. The surrounding forest provided shelter and the right of way became a key game food area. The tests were validated by game counts.

The great increase in bracken fern was an interesting example of how game food was enhanced on the sprayed right of way. This plant is normally eaten by deer only in the spring and early summer, but on the sprayed area the young ferns found were succulent and nourishing even

SWEET FERN, bear oak and other shrubs and grasses landscape the forest edges on the right of way.





WOODCHUCK HOLES are common on area studied, offer cover for different species of small game at times.



THIS SHRUB BORDER was created on the edge of the right of way by selective spraying.

into July. Chemical tests showed them to be high in protein (37.7 percent) and in magnesium, phosphorus and potassium, as compared with wheat and sweet clover. About 400 pounds of bracken per acre grew on the right of way in July, and in some areas as much as 50 percent had been browsed by deer.

Two game counting methods were used. First, direct observation; second, definite signs such as pellets, tracks, and evidence of feeding. In the years immediately following spraying, an intensive study was made on the vari-

ous treatment areas. This was supplemented in later years by observations made while doing other work, such as tallying vegetation changes. During the winter periods observations were made of animal signs after snowfalls.

The study has clearly revealed that game has flourished and increased in the area, and even that species such as rabbits, which are not common in the forest, have moved in, increasing the species of game in a given plot under scrutiny. The study should give assurances to sportsmen that chemicals can be used safely and effectively.

"You and Your Lawmaker"

National Shooting Sports Foundation has recently published a 24-page booklet designed to help the sportsman take an active role in influencing his legislature. The booklet, entitled "You and Your Lawmaker," is available free from the National Shooting Sports Foundation, Inc., 1075 Post Road, Riverside, Conn. 06878.

Hey, Over There!

Deer fawns are quiet little creatures that rarely make any noise while hidden by their mothers. However, twin fawns hidden in thickets may "talk" to each other in tones that sound like the soft calls of catbirds.



Waterfowl Motels

By Robert P. Shaffer
District Game Protector, Juniata County

A RECENT program embarked upon by the Pennsylvania Game Commission is the improvement of conditions for waterfowl in and around the Susquehanna River Basin. The first step along these lines was the acquisition of Hoover's Island near Selinsgrove in 1960. Land Manager William Fulmer and his Food and Cover Corps cleared and planted 150 acres of the 275-acre island and built a 4-acre pond. Mated pairs of wild geese were brought in and wild ducks attracted by the improved conditions dropped in and stayed around. Now an estimated 25,000 wild ducks visit and utilize this area each fall. In addition, a native, locally raised flock of some 75 geese are present to produce a challenge to sportsmen.

In 1966, District Game Protector Jacob Sitlinger of Perry County acquired an option on Clemson's and Swigart's Islands, situated about five miles south of Liverpool. After negotiation, the islands were acquired. Supervisor William Hodge assigned Land Manager Ivan Dodd to figure out the best plan to utilize the islands' potentials to the greatest extent. Land

Manager Assistant George Burdick, Dodd, Sitlinger and the Food and Cover Corps conferred on this and put their plans into action. Ivan and Jake set out with a D-7 bulldozer and cleared 100 acres of the largest island, Clemson's.

Many long, hot, dusty hours were put in, and before completion they even bulldozed a channel clear across the Susquehanna River. This was done to accommodate a barge they needed to get supplies to this isolated area. They 'dozed, cleared and leveled a 30-acre area, bushed out a 2-acre pond and established an access area. Then the Food and Cover Corps installed 1500 yards of six-foot fence which enclosed 20 acres. A watering area and catch pen also were completed. Nesting boxes and rearing pens were constructed and in January, 1966, 10 mated pairs of Canada geese were shipped in. A hatch of wild honkers came off in the spring of 1967.

The general idea in such operations is to combine the natural habitat of the river with ideal nesting sites and available feed to induce a larger native bird population to use an area. The

offspring of the pen-reared birds, having the natural instinct of geese and ducks to return to the area in which they were raised, should increase the number of waterfowl in and around the area tremendously.

Chain of Stops

Also, in combination with the Pymatuning Waterfowl Area, Hoover's Clemson's and Swigart's Islands and the Middle Creek Area, this will form a chain of stopping places that should induce many of our yearly migrants to drop in for a much longer visit.

Imagine a big mallard thousands of miles away in Saskatchewan. When the winds turn cold he starts his journey south. As he enters the Keystone State he can stop to rest and feed at the Pymatuning. Then he swings southeast on the Atlantic Flyway and drops in at Hoover's Island for a spell. Then on down to Clemson's and Swigart's and across the ridges to the Middle Creek Area, where he rests up for a while before passing over the Philadelphia section and winging down to the Chesapeake Bay area to

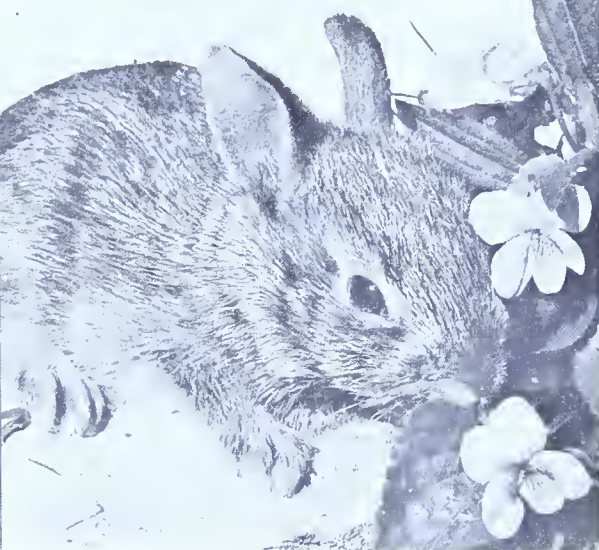
winter up. All these stopping places form a natural line—sort of motels for waterfowl—and will prove invaluable to migrating birds.

Are these programs successful, someone asks. As with all wildlife endeavors, nothing is guaranteed, but no one can question the success of the increased harvest of birds at Pymatuning. Not just an increased harvest but an overall increased population due to the improved environment making conditions more suitable for nesting with minimal losses from predation. This, combined with a strictly managed yearly harvest, has proved a modern wildlife miracle.

As I assisted on this project and observed the pairs of geese starting to adapt to their new surroundings, then glanced skyward and saw a nice wedge of mallards passing over, I couldn't help but feel a bit of satisfaction and pride in belonging to a group that is interested in looking not only to tomorrow but on into the years ahead. With men like these, conservation is not just a word . . . conservation is doing.

PROBLEMS CONNECTED WITH clearing 100 acres of land on Clemson's Island are discussed by DGP Jake Sitlinger, seated on bulldozer, and Land Manager Ivan Dodd, during work on the island.





WHEN A FELLER'S on his own, he's gotta find his chow where he can. . . .



WONDER WHAT'S on the other side of this ol' fence?



The Keystone Cottontail

By Bob Wright

IN NOVEMBER, the cottontail rabbit is Pennsylvania's most popular game animal. And when most hunters think of rabbits they conjure up visions of tawny forms skittering through swales of frost-burned grass ahead of bellowing beagles.

But where are the rabbits in July? And what are they doing now? Well, a lot of 'em are around now—more than there will be in the fall. Breeding began a couple of months ago, with the first young appearing about the end of March, followed with successive litters every month or so. An average of about five bunnies arrives in each litter, with spring-born females having young of their own in the fall. But most cottontails never reach their first fall. Unfavorable weather and predators account for at least two-thirds of them.

Still, our actor on this month's pages is not concerned with his future. He's too wrapped up in enjoying the moment he's sure of—the "right now." The way he sees it, there's a big, wide world out there, just waitin' for him. There are flowers to sniff—they might be good eating—clover to chew, clear, sweet drops of dew to taste. Truth is, there are so many things to do when a feller wakes up of a morning that he just doesn't know where to start.

So, come on, ol' world, move over and make room for a little guy like me, will yuh? I don't take up much space!

GAME NEWS



THIS GREEN STUFF is really all right, and there's a lot of it around—which is a good thing, 'cause a growin' guy like me has to keep his strength up. Never know when something's likely to start chasin' after him!



'COURSE, your face needs attention, too, and that takes both paws.



AFTER YOU EAT, you oughta wash a little, I s'pose . . . or should you do that first? Problems, problems. . . .



OKAY, NOW, let's get outa here!





FIELD NOTES



Goodie for Woodie

CENTRE COUNTY — The duck population appears to be on the increase in my district. Pairs of woodies and mallards can be seen on practically every dam in this area.—District Game Protector M. Grabany, Philipsburg.



Keep Chompin', Barney!

JUNIATA COUNTY — Late one dark night while working jacklighters, Deputy Barney Smith and I were parked back in the woods listening for shooting. Barney asked if I had anything in the car to eat, and I said there were probably some Tootsie Rolls somewhere in the glove compartment. A short time later I heard him crunching away and figured he'd found something. Some time later he made a rather nasty comment about the brand of candy I had, saying it was not only hard to chew but it tasted awful. I imagine it did, because after we got moving and turned some lights on, I found he had eaten half of the roll of ferrule cement that I kept for repairing my fishing rod.—District Game Protector R. P. Shaffer, Mifflintown.

Live and Learn

DAUPHIN COUNTY — I recently have talked to several fox hunters who were happy that the bounty was taken off the fox. One hunter has checked the stomach content of every fox he killed, and he found that most had been feeding on mice. Two other hunters located a den with pups. Upon digging out the den they were astounded by the number of moles they found in the tunnel. These reports are gratifying after so many complaints about it not being worthwhile to hunt fox now, or saying they had to quit hunting because the bounty money had offset the cost of their dogs' feed. Whenever I hear the latter complaint, I wonder how the coon hunters and bird dog enthusiasts managed all these years.—District Game Protector S. L. Opct, Millersburg.

Halfway Outdoorsmen

GREENE COUNTY—It seems that some young people, as well as older ones, don't want to take time out to learn the rules of the game when it comes to hunting and fishing. One young man was apprehended with a hen pheasant this month and stated flatly that he thought he could hunt pheasant anytime. Another said he had caught many trout before, but this month he caught his first with teeth. The Fish Commission had stocked northern pike in Ryerson Station State Park, and this man didn't know the difference between a trout and a pike. Whenever any of us participate in athletics we must learn the rules of the game. Certainly, the same applies to our outdoor recreation sports.—District Game Protector L. V. Haines, Waynesburg.

What Did the Sheriff Say?

ARMSTRONG COUNTY—Deputy Sheriff Martin told me that an Armstrong County lad of about 22 recently came into the sheriff's office to obtain a pistol permit. When told by the sheriff that he couldn't have one for protection, but could have one for target, hunting and fishing, the lad promptly asked, "What kind of fish can you hunt with a pistol?"—District Game Protector R. H. Muir, Kittanning.

Work Pays Off

YORK COUNTY—When we sometimes think our conservation efforts are in vain, we should look at the work done by the CCC in the 1930s. Some improvements they put in on our streams and roads are still working today. The time spent in improving a stream or road is obviously well worth the effort.—District Game Protector R. L. Yeakel, Red Lion.



Ouch!

HUNTINGDON COUNTY—A tip from Bill Putt of Saxton: A dog that runs deer can sometimes be broken from this habit by putting deer scent on the pan of a rat trap and letting the dog locate it. Once or twice should do the trick.—District Game Protector T. C. Barney, Rockhill Furnace.



Know Better Now

ALLEGHENY COUNTY—During April I had six young people in this district bitten by raccoons. All specimens were examined by the Allegheny County Health Department, and all proved negative. It seems quite a few people in this area want to capture wild raccoons and make pets from them. I would imagine the six bitten now have other ideas.—District Game Protector J. W. May, Coraopolis.

Or a Helicopter, Maybe?

VENANGO COUNTY—Trappers of mink, muskrat and fox are always having a trap or two stolen during the year. Each year we can also expect to lose a few Commission rabbit box traps to the fellows with light fingers. So the other day when a lady called to tell me someone stole a heavy wire squirrel trap which I had set to remove squirrels from her house, I should not have been too surprised. But this trap was on her house roof, and a ladder was needed to reach it!—District Game Protector L. E. Yocum, Oil City.

Good Gunning Coming Up

SNYDER COUNTY—During April I witnessed more pairs of quail than I have ever seen before in Snyder County. — Land Manager I. L. Dodd, Beavertown.

Youthful Respects

FULTON COUNTY—I received a call from a lady in Burnt Cabins, informing me of a small deer that had crawled into a wooded area near her residence and died after being hit by a car. She told me some small children playing in the area had found it. Upon arrival I was surprised to find a neat fresh mound with a picket fence, a small cross, and a tin can full of wild flowers.—District Game Protector C. E. Jarrett, McConnellsburg.



Here Today, There Tomorrow

VENANGO COUNTY—How people and times change, even out away from the cities, was brought out to me recently. A man called about muskrat damage in a farm pond. He had only finished it last year at a cost of hundreds of dollars. Muskrats were digging holes and had already lowered the water level. I agreed to set several traps, and asked if the owner could check them as I cannot always go back to the same area every day. I was told he could not check them regularly, as he was leaving for Africa the next day, would be back in a few days and go again. This seemed strange to me, but I found out he worked for Trans World Airlines and went on these trips every few days.—District Game Protector C. W. Decker, Franklin.

The Little Extra Effort . . .

ERIE COUNTY—Chester Weber, a Deputy Game Protector from North East, has two large black walnut trees in his yard. About three years ago, red squirrels buried numerous nuts in the yard, and they sprouted. Before mowing the lawn, Chet removed the seedlings and placed them in a bed. All 45 of the seedlings survived, and the following year Chet transplanted them to State Game Lands 163, where no black walnuts existed before. Chet reports they are now about 2½ feet high, and doing well. If everyone were as conservation minded as Chet, our work would be a lot easier and this world would be a better place.—District Game Protector R. L. Sutherland, Erie.

Frugal Freddie

LACKAWANNA COUNTY—I recently had a telephone call asking where some ducks could be hunted in this area. I informed the gentleman that duck season was closed until this fall. He said, "My duck stamp expires on June 30, 1968, and I wanted to get some more use from it before that time. I'll bet they plan the next season so that it comes in after this stamp expires."—District Game Protector T. C. Wylie, Moscow.

Hadda Be There Somewhere

INDIANA COUNTY—Gordon Groves and I conducted a woodcock survey and count in April for the Federal Fish and Wildlife Service. A time limit of 30 minutes was placed on each run of 3.6 miles, with 10 listening stops. The run could not be completed on this particular night, as we had to reduce our speed in order to avoid killing the rabbits that were on the roadway. Fourteen rabbits were seen on the road, and 34 deer on or near it. Oh, yes, we also counted five woodcock. — District Game Protector C. Hertz, Marion Center.

We Wonder, Too

CLARION COUNTY — Every day an ever-increasing number of ugly piles of garbage and debris defaces the beauty of nature which we all supposedly hold dear. Apparently, the word “all” is a bit of exaggeration. When one of these persons is apprehended the most common excuse is either, “I have no garbage man,” or “I don’t know how it got there.” Recently, however, a new one appeared: “Someone stole it.” There is a question I have to ask anyone who has caused the feelings I have expressed here: “How do you sleep at night?” — District Game Protector D. W. Brown, Knox.

Showoffs, That’s All

WASHINGTON COUNTY — Last month in East Finley Township a wild turkey was seen chasing a horse in a meadow. This month Deputy Frank Byers received a complaint from a farmer who lives there that a wild turkey was disturbing his cattle. At two different locations along Dutch Fork Creek we fenced off nesting mallard hens so they would not be disturbed by people fishing. The hens pay no attention to fishermen who stop nearby to watch them turn their eggs. They seem to enjoy being the center of attraction. — District Game Protector G. T. Szilvasi, Washington.

How’s That?

MERCER COUNTY — The remarks overheard at wildlife displays at fairs could fill a book. The most confusing statement of the year was made by a sportsman talking with some friends about hawks. He said, “The big trouble with most people was, that every crow they saw in the sky, they thought was a chicken hawk.” There’s a statement that takes some time to figure out. — District Game Protector J. A. Badger, Mercer.



Shades of Tom Sawyer

FRANKLIN COUNTY — While on duty at the Washington, D. C., International Sports Show, a man came up to our booth and asked me how to keep from getting lost in the woods. I suggested he remember the sun’s position when entering the woods, that he learn the use of a compass and topographic map, etc. He stated that none of these methods was foolproof, and insisted there must be a foolproof method. I told him the only foolproof way I knew would be to take a big ball of string, tie one end to his auto and unwind it as he walked. When ready to go home, he could follow the string back, winding it up as he went. — District Game Protector, J. D. Mort, Chambersburg.

’Nuff Said

HUNTINGDON COUNTY — I recently became the owner of a fine young Labrador retriever. At the first chance I had, I showed the new puppy to my friend, Deputy Joe Smith, proudly announcing that in a few years we could throw away our hip boots when we went duck hunting, as the Lab would do all the retrieving for us. To which Joe replied, “If he’s going to get the birds I shoot at, you better teach him to fly.” — District Game Protector G. W. Wendt, Petersburg.

We Keep Telling You

BEDFORD COUNTY—Talking to a man from Virginia who was complaining of the high cost of a hunting license for nonresidents, I asked him how much it would cost to hunt in Virginia if he included all the species of game he could hunt here on a non-resident license. After adding it up he admitted the hunting in Pennsylvania was well worth the price.—District Game Protector S. E. Lockerman, Loysburg.



A Lesson for Us

CLINTON COUNTY—The other day Ed Bridgens of Lock Haven told me an interesting story of the behavior of animals. His daughter found a small rabbit whose mother had just been killed by a car, and brought it home to care for it. The Bridgens family has a cat and dog, and both had just had young. Ed said it was something to see how both the dog and the cat tried to adopt the baby rabbit. First the cat would pick up the rabbit and put it in the box with its kittens, and then the dog would sneak back and take the rabbit and put it with her puppies. Ed said they both tried to nurse it, but his daughter feeds it using a tiny bottle. Seems even animals who are normally enemies can learn to live together, so maybe there is still hope for us.—District Game Protector J. B. Hancock, Lock Haven.

George's Fault

WAYNE COUNTY—Mr. and Mrs. Gordon Houghtaling, Equinunk, were dinner hosts to Mr. and Mrs. Everett Hawley recently, and after enjoying dinner they retired to the living room for conversation and to enjoy the evening fire. The peaceful atmosphere was shattered by a woman's piercing scream. There on the high back chairs sat two flying squirrels. With the aid of a towel, they were captured and released outdoors. Mr. Houghtaling calmly assured his guests that this was a common occurrence, and said he could not find the squirrels' entrance hole. Since this house was formerly occupied by Deputy George Snyder, I wonder if he forgot to move everything?—District Game Protector F. G. Weigelt, Galilee.

That Squares Accounts

LYCOMING COUNTY—The other day a sportsman found a grouse along the highway that had been injured by an automobile. He brought it to my headquarters, where I found it had a bruised head and a cut wing and leg. I made a nest of leaves and put the grouse in it to recuperate. Before it left it laid an egg, which I have under a jungle fowl that is setting.—District Game Protector L. R. Whippo, Williamsport.

Big Buck

BERKS COUNTY—On April 11, Deputy Howard Muhlenberg recovered a male road-killed deer that had been hit in Cacrnarvon Township on Route 10. Howard said it was one of the few deer that he had to wait for help to load. It had a large frame but did not appear fleshy. It weighed 186 pounds, field-dressed, so the reason for needing help was obvious. We'll soon need winches or load lifters if this trend should continue.—District Game Protector J. A. Leiendecker, Reading.



CONSERVATION NEWS



THE NEW HEADQUARTERS BUILDING, above left, for the Southcentral Field Division, Huntingdon, was dedicated April 27 during the Game Commission's spring meeting. Some of the visitors are shown above right. Below are Division Supervisor W. A. Hodge; Commission President Frederick M. Simpson; Secretary of Commerce Clifford L. Jones, principal speaker for the occasion; and Executive Director Glenn L. Bowers.

PGC Photos by Joseph Chick



Game Commission Opposes "Hard" Pesticides

MOUNTING EVIDENCE that persistent chemical pesticides cause alarming and injurious changes in man's total environment has led the Pennsylvania Game Commission to express concern over the potential menace to the state's wildlife resources.

The Commission, meeting in Huntingdon recently, took an official stand against the use of "hard" pesticides.

In its policy statement the Commission discourages "the use of certain highly toxic pesticides such as DDT, chlordane, lindane, heptachlor, endrin, aldrin, dieldrin and other "hard" or persistent chemical compounds used to kill insects.

Because these chemicals do not degrade or break down readily, they constitute a dangerous threat to mammals, birds, fish, soil organisms and other vital elements of the environment.

The Commission encourages the development and use of biologicals that constitute natural enemies of harmful insects. In situations where suitable biologicals are not available, the Commission urges the use of certain comparatively short-lived chemicals such as sevin, malathion, dylox and methoxychlor, instead of hard pesticides. Soft pesticides break down into harmless compounds rather rapidly.

Although the Commission realizes that these alternatives may be more expensive and less convenient, it believes insect problems can be solved without the use of dangerous hard chemicals.

In other action at the Commission meeting:

Approval was given to seek legislation to permit the use of autoloading rifles and shotguns for hunting big game.

Copies of GAME NEWS, the Com-

mission's official monthly magazine, which are more than five years old will be sold for one dollar each. Many issues are in short supply and are becoming collectors' items.

Continued participation in an Atlantic Waterfowl Council program of banding birds in eastern Canada was approved for a three-year period at a cost of \$2,060 annually.

Allocations for conservation education were made to the following: The Academy of Natural Sciences, Philadelphia, \$3000; Carnegie Museum, Pittsburgh, \$3000; Future Farmers of America, \$1000; Pennsylvania Conservation Education Laboratory for teachers, \$1000; Penn State Agriculture Extension Service, \$1000.

Improvements costing an estimated \$100,000 were authorized for the Wild Waterfowl Museum at Pymatuning Lake near Linesville, Crawford County. A blacktop parking area and entrance road, a conference-lecture room and improved sanitary facilities are planned.

Work was approved on several waterfowl projects. Buzzard Swamp in Allegheny National Forest, Elk and Forest Counties will be developed as a waterfowl area. Construction of Custards Dam on State Game Lands 213 in Crawford County was approved, and a feasibility study will be initiated for a waterfowl area in the Glades on State Game Lands 95 in Butler County.

Purchase of 2258 acres of land for public hunting at a cost of \$136,100 was approved in these counties: Adams, Blair, Bucks, Butler, Centre, Columbia, Dauphin, Fayette, Juniata, Lycoming, Schuylkill, Snyder, Westmoreland, York.

Licenses of 574 hunters were revoked for Game Law infractions.



OVER 30,000 GIRL SCOUTS, LEADERS and parents took part in the Allegheny County Girl Scout Fair. The theme of many exhibits was conservation. Thousands of questions were answered by DGPs Richard Belding and Don Madl. With them are Mary Beth McElhinny and Mary Lou Lyle of Port View, and Senior Scout Lee Tilton, Pittsburgh.

PGC Photo by Fred Servey

Over 1000 Acres Given to Park

Western Pennsylvania Conservancy has announced a second major gift of lands—more than 1059 acres—from the Bethlehem Steel Corporation for inclusion in the Laurel Ridge State Connector Park.

The new park was conceived by the Conservancy, which, during the past two years, has acquired more than 11,000 acres along this mountain ridge of the Appalachians to connect lands already held by the state. The new park will protect the entire mountain ridge through four counties, a distance of 57 miles between the great gorges of the Conemaugh and Youghioghenny Rivers.

Dr. Maurice K. Goddard, Secretary of Forests and Waters for the Commonwealth of Pennsylvania, described the new park project as "... destined to become the most spectacular public conservation resource in the eastern United States."

Audubon's Home Open to Visitors

Visitors are welcome at Mill Grove, the home of John James Audubon. On display is a complete set of the 435 prints from his gigantic *Birds of America*. The house is surrounded by six miles of trails, where visitors can see 172 species of birds and 400 kinds of flowers. Open daily (except Monday) from 10 a.m. to 5 p.m., the house lies just off Route 363 in Audubon, north of Valley Forge.



CONGRATULATED BY DGP Duane Gross is John I. Buck, Fish Commission supervisor, whose 20-lb. gobbler taken in the spring season made him a Triple Trophy Award Winner.

Good Gobbler Season

INITIAL field reports indicate that Pennsylvania's May 6-11 experimental spring gobbler season was a big success, according to the Pennsylvania Game Commission. Both the turnout of hunters and the harvest of gobblers were greater than anticipated. Also surprising was the size of birds taken—many exceeded 20 pounds, and there was a report of a 26-pounder taken in Beaver County.

Game Commission officials were pleased that a rather high percentage of old gobblers was taken. These birds are extremely wary, relatively unresponsive to calling and infrequently harvested in the fall. After the mating season they are more-or-less "excess baggage" in the total turkey population.

Birds, Lands and People

"Birds, Lands, and People" is a new booklet available free from all county extension service offices or from the College of Agricultural Extension Service, Penn State University, University Park. The booklet is intended to help people understand changes in natural environment and how this affects birds. A study of farmers' attitudes toward birds is reported, and management suggestions, both public and private, are included for groups such as sportsmen, farmers, garden clubs, bird clubs, conservationists and youth. Of special interest is a bird check list, which includes a simplified table of seasonal status of birds and their usual habitat.

110,051 Archery Licenses in 1967

The sale of archery licenses, rising steadily over the years, jumped to a new record in 1967, the Pennsylvania Game Commission recently announced. Last year's archery license sale totaled 110,051, according to Executive Director Glenn L. Bowers. The figure is the all-time record, and considerably higher than the 92,792 sold in 1966. Archery license sales increased in every county of the state last year, compared to 1966.

Precocial vs. Altricial

Almost all American game birds are "precocial." Their young are covered with down when hatched, and are able to leave the nest as soon as they are dry. Exceptions are pigeons and doves whose young are "altricial," and stay in the nest until ready to fly.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



OVER 500 BERWICK AREA HIGH SCHOOL students completed the hunter safety course conducted by DGPs Edward Sherlinski and Harold Harter. Another 500 were qualified at Bloomsburg's Central Area High School, and 105 at Southern Area Joint High, Catawissa.

DICK STATLER, Chess Fryer, John Owens and Chester McChesney took part in Northwestern Beaver High School's safe hunting program.

JAMES E. WEIMER, right, Somerset, receives the 1967 hunter safety instructor's award from Lester Jacobs, Sr., president of Tire Hill Sportsmen's Assoc.



State Hunting Accidents, 1967

	BOW & ARROW		FATAL NO. PERCENT		NON-FATAL NO. PERCENT		TOTAL NO. PERCENT	
<u>TOTAL CASUALTIES</u>								
Self-inflicted	15	4	16.7%	128	28.0%	132	27.5%	
Inflicted by others	4	20	83.3%	328	72.0%	348	72.5%	
<u>SEASON</u>								
Open Season	19	24	100.0%	452	99.0%	476	99.2%	
Close Season	0	0	0.0%	4	1.0%	4	0.8%	
<u>AGES OF VICTIMS</u>								
Under 12 years of age	0	0	0.0%	5	1.0%	5	1.0%	
12 to 15 years of age	2	4	16.7%	64	14.0%	68	14.0%	
16 to 20 years of age	7	2	8.3%	104	22.8%	106	22.2%	
21 years of age and over	10	18	75.0%	280	61.6%	298	62.2%	
Age not reported	0	0	0.0%	3	0.6%	3	0.6%	
<u>AGES OF PERSONS INFLECTING INJURY</u>								
12 to 15 years of age	0	3	15.0%	37	11.2%	40	11.5%	
16 to 20 years of age	1	2	10.0%	57	17.3%	59	16.9%	
21 years of age and over	3	11	55.0%	143	43.8%	154	44.3%	
Age not reported	0	4	20.0%	91	27.7%	95	27.3%	
<u>BIRD OR ANIMAL HUNTED</u>								
Deer	19	12	50.0%	98	21.4%	110	22.9%	
Bear	0	2	8.3%	3	0.6%	5	1.0%	
Upland Small Game	0	4	16.7%	293	64.5%	297	61.9%	
Woodchucks	0	3	12.5%	35	7.7%	38	7.9%	
Migratory Birds	0	0	0.0%	9	1.9%	9	1.9%	
Furbearers	0	0	0.0%	2	0.4%	2	0.4%	
Predators	0	0	0.0%	1	0.2%	1	0.2%	
Unprotected species	0	3	12.5%	15	3.3%	18	3.8%	
<u>SPORTING ARMS USED</u>								
Shotgun	0	7	29.2%	289	63.4%	296	61.7%	
Rifle	0	17	70.8%	127	27.8%	144	30.0%	
Pistol	0	0	0.0%	21	4.6%	21	4.4%	
Bow and Arrow	19	0	0.0%	19	4.2%	19	3.9%	
<u>CASUALTY CAUSES</u>								
Sporting Arm placed in dangerous position	13	0	0.0%	26	5.7%	26	5.4%	
Accidental discharge of sporting arm in hands of hunter	0	9	37.5%	121	26.6%	130	27.1%	
Ricochet or stray; shot, bullet or arrow	1	2	8.3%	42	9.2%	44	9.2%	
Victim in line of fire	0	8	33.3%	220	48.3%	228	47.5%	
Hunter slipped and/or fell	3	0	0.0%	8	1.7%	8	1.7%	
Hunter dropped sporting arm	0	0	0.0%	5	1.1%	5	1.0%	
Shot in mistake for game	0	5	20.9%	15	3.3%	20	4.2%	
Sporting arm exploded	2	0	0.0%	15	3.3%	15	3.1%	
Using sporting arm as club	0	0	0.0%	3	0.6%	3	0.6%	
Unknown	0	0	0.0%	1	0.2%	1	0.2%	
<u>WHERE CASUALTIES OCCURRED</u>								
Fields	2	5	20.9%	114	25.1%	119	24.8%	
Brush	3	5	20.8%	125	27.4%	130	27.1%	
Open Woodland	3	5	20.8%	81	17.8%	86	17.9%	
Dense Woodland	6	6	25.0%	92	20.1%	98	20.4%	
Water	0	0	0.0%	5	1.1%	5	1.0%	
Conveyance	0	1	4.2%	5	1.1%	6	1.3%	
Camp	0	0	0.0%	4	0.8%	4	0.8%	
Woods road or public highway	5	2	8.3%	30	6.6%	32	6.7%	
<u>WEATHER CONDITIONS</u>								
Daylight	2	3	12.5%	73	16.0%	76	15.8%	
Clear	14	6	25.0%	249	54.6%	255	53.1%	
Raining	0	6	25.0%	26	5.7%	32	6.7%	
Snowing	0	0	0.0%	16	3.5%	16	3.3%	
Fog	0	1	4.2%	11	2.4%	12	2.5%	
Cloudy	1	8	33.3%	64	14.0%	72	15.0%	
Dusk	2	0	0.0%	10	2.2%	10	2.1%	
Dark	0	0	0.0%	7	1.6%	7	1.5%	

*Casualties by Bow & Arrow hunters are included in the Non-Fatal and Total columns.

SUMMARY OF ALL CLASSES OF 1967 SHOOTING CASUALTIES

FATAL.....24 - 5.0%

NON-FATAL.....456 - 95.0%

TOTAL.....480 - 100%

1967 HUNTING CASUALTIES COMPARED WITH PREVIOUS TEN-YEAR PERIOD

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Total	10 Yr. Av.	1967
FATAL....	14	27	17	27	23	16	18	17	30	15	204(A)	20.4	24
NON-FATAL.	489	453	496	525	454	435	341	412	492	471	4568(B)	456.8	456

(A) Of this total 26.9% were self-inflicted and 73.1% inflicted by others.

(B) Of this total 22.6% were self-inflicted and 77.4% inflicted by others.



To Keep Your Bow Active During Summer, Try . . .

Shooting Snakes

By Keith C. Schuyler

Photos by the Author

IF YOU ARE interested in a lively target to include in your summer shooting schedule with the bow and arrow, try snakes. Water snakes. Not the relatively rare (in Pennsylvania) little Kirtland's water snake; not the crayfish-eating queen water snake; but rather try for the big, nasty-tempered, fish-eating northern banded water snake.

Found in most counties of Pennsylvania, the northern is fair game for any archer. Snake respecters (I don't think anyone really *loves* snakes), including this writer, cannot find much argument in the bagging of as many northerns as the best archer is likely to find, and hit, in a season.

Aside from the Sunday tournaments held by member clubs in the Pennsylvania State Archery Association, things

are kind of quiet during July. You can enliven them considerably if you go after the big water snake with the bow. Despite his frequently four-foot-plus length, the banded snake is a tough target, because even a big one won't be more than about two inches in diameter. At any distance over three yards, it takes fine shooting to pin any snake.

Let it be understood that this isn't an open invitation to shoot snakes indiscriminately. Certainly most of our snakes are friends of man—even if on a somewhat cold-blooded basis. In fact, except possibly for the poisonous varieties, there is really no good reason to shoot any Pennsylvania snakes except the northern banded variety. For those who would defend even this snake as a scavenger of only

non-game, slow-moving and sick fish, I've included a photo of one with a catch that would make the average trout fisherman drool. After dispatching this big fellow, we noticed a suspicious bulge in his approximate middle. A postmortem operation revealed a 10-inch brook trout which had been eaten only a short time before, according to its state of preservation.

Those who would defend it as generally harmless in the scheme of things should consider that a female northern will produce as many as 44 live young at one lying-in. Not many of these get past the birds, fish and animals that prey on young snakes, but the one you shoot can likely be spared as a not-too-serious drain on the wild-life population.

There are two ways to shoot water snakes. Either can work out well, depending upon how much practice you've had beforehand. One, take your old broadheads. This will considerably increase your chances of a hit because of the additional area that the head itself will cover. *Old* broadheads are mentioned, since a miss, which is always possible, or even a hit, can make even an old head older—particularly if it hits a rocky stream bed.

CAREFULLY PADDLED, a canoe can put archers within arrow distance of water snakes on many of Pennsylvania's creeks.



Another choice is to use your regular fish arrow. These are more ruggedly constructed, since they are designed to take the abuse that a miss at a fish might produce. You have the added advantage of stringing your snake in the event of a pass-through. This prevents a wounded snake from escaping. You can simply follow it up with the line to administer the coup de grace. Also, you can more easily recover arrows when shot into the water.

Crawl Up Branches

Northerns like to crawl up branches of trees or brush piles to sun themselves, or they will slide out on a log or low-hanging branches of bushes. They will seldom be found in direct sunlight, as this dries them out too much. When the sun is high, the water snake is more likely to be found under some cover if not in the normal water habitat. This encourages a cooperative type of hunting.

A reasonable amount of caution is necessary in looking for water snakes. Otherwise, you will have the almost impossible shot, if any, of just a snake's head worming its way across the surface. Even so, if you hear a *plop* or see a suspicious splash, freeze. The snake will frequently surface nearby to provide a shot. If it doesn't show itself, return to the same spot a half hour or so later. Knowing a snake is in the area, you are much more likely to see it before it escapes.

Although known as the *banded* water snake, the larger northerns appear to be more of a mottled, dirty-clay color. This is particularly true just before they are ready to shed their skins. This is a good time to spot them before they detect your presence, since the skin over the eyes is also shed, and it becomes more difficult to see through just prior to shedding time.

The accompanying photographs were taken on an excursion intended for carp. The Susquehanna was running dirty, as it did much of last sum-

mer, and the few carp we saw left little more than a faint wake to reveal their presence as they scooted for the center of the river. Then, in a small island of bushes near shore, my No. 1 son, who shares my name as well as some of my equipment, began to spot water snakes. The place was well laced with their ugly lengths, but they were usually in positions which precluded a clear shot. Finally, he spotted a large northern stretched out on a stick jutting from shore.

Keith eased in with his bow, and I moved in with the camera. My luck was a little better than his. Although the camera didn't catch the arrow which didn't catch the snake, the rest of the action was recorded for posterity.

While I beat the bushes for some of the four snakes which we had seen previously, he took a short jaunt to where a small stream enters the river. He saw only one small northern, which escaped. However, just as we decided to call it an afternoon, we almost walked into a large snake at eye level. Keith had been looking in the more obvious places and had passed nearly under the snake without disturbing it.

It was my turn to shoot. And it was an easy setup. The shot looked good, but the snake whipped down out of the tree and headed for the brush. However, the fish arrow had gone through its middle, and it was a simple matter to follow the monofilament to my retreating target. My bow was equipped with a spinning reel, a setup we frequently use for carp, and the old snake still had about 90 yards of line to go when Keith caught him.

This one was a fairly heavy specimen of about three feet, and it was fighting mad. Even when not attached

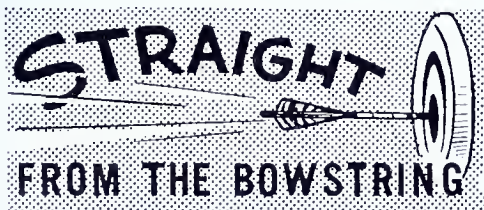


NORTHERN BANDED water snake likes to crawl into low branches above creek and sun itself, thus archer should not keep his gaze at ground level.

to a bow by monofilament, this is the normal disposition of the northern banded water snake. After a few quick photographs, Keith finished the arrow's work.

Although the bite of the water snake is not dangerous, it will strike viciously and frequently when in captivity. The queen and the Kirtland water snakes are of rather mild dispositions by comparison. Despite the fact that the water snake has no fangs, it does have teeth. These cause no more than a scratch. However, it is not unusual for these to cause infection.

In addition, the water snake has a musk gland at the vent which secretes an extremely foul substance. When handled, the reptile frequently gives off this musk which produces a sick-





TEN-INCH BROOK TROUT taken from this northern banded water snake is proof that it does not capture only small, slow-moving fish.

ening odor that is difficult to remove. This discourages trying to grab them behind the head in the accepted fashion, as they then coil around your arm and smear their musk on you.

Cooperative hunting consists of taking turns lifting flood-deposited trash along shore. In good snake areas, you seldom find a large board or similar cover which doesn't harbor a snake during the heat of the day. When the cover is lifted, the snake will often lie quiet long enough for a shot.

One thing to remember when hunting northerns that get into the water is that they must come up for air sooner or later. If there is an overhanging bank, your chances for a second try are poor if one gets away after a miss. Many times they will do an ostrich by sticking their heads under a submerged stone which won't accommodate their bodies; there then

is enough snake visible for effective shooting.

If you want to avoid much handling of a live water snake after you have hit it, grab the reptile firmly by the tail, lift it and snap it like a whip in one motion. This will dislocate the vertebra just back of the head and take all the fight out of the snake.

Likes Frogs

Although the northern banded water snake lives primarily on small fish, it is not likely to pass up a frog. One evening when fishing for trout, I heard the most pitiful crying. On investigation, my suspicions were confirmed when I found a big water snake which had clamped down on a small green frog. Since snakes literally crawl around their victims to consume them, and this frog was still only clamped across the middle, I grabbed the snake and it dropped its intended victim. I permitted both to go about their business. You will often find water snakes where frogs are plentiful.

Another method of hunting water snakes is by boat or canoe—preferably canoe, since it is quieter. You will find many opportunities denied the hunter on the bank. This usually means taking turns at the bow, for shooting safely from a canoe requires a good man on a paddle in the stern.

About the only excuse that one can find for hunting poisonous snakes is in the fact that they are dangerous to humans. Most of what they eat is detrimental to or of little consequence in the wildlife picture. Nevertheless, you won't get any arguments from me if you shoot any of the three poisonous reptiles in Pennsylvania—the northern cooperhead, the timber rattler and little massasauga rattler. Only those who live in the western part of the state are likely to have a go at the latter.

We can't recommend anything less than a broadhead here. You want to do as much damage as possible on the shot. Anyway, there is no logical rea-

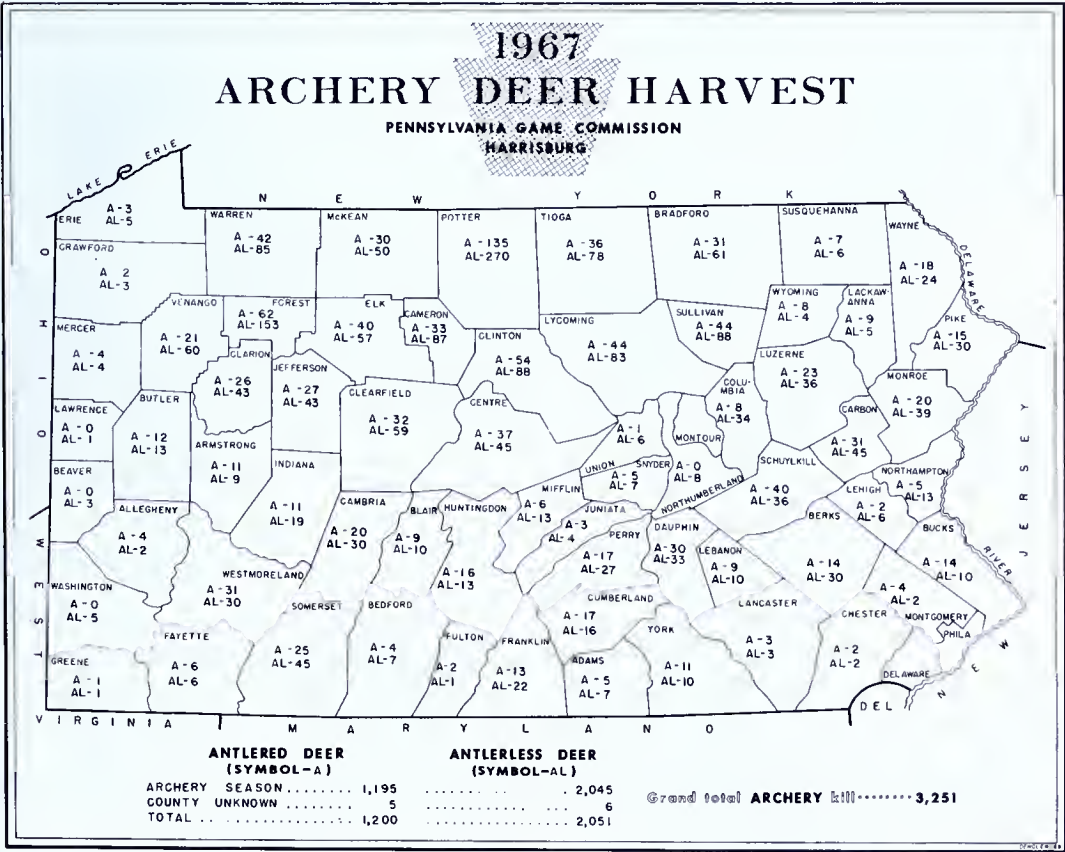
son to use fish-shooting gear. You are not apt to find these poisonous snakes anywhere except on the ground or a rock ledge.

It would take an extremely lucky shot with an arrow to eliminate all immediate hazard from a poisonous snake. This means that extreme care should be used in approaching such a reptile, no matter how effective the shot appears to be. Even the severed head of a copperhead or a rattler can be dangerous. If you pin one of these snakes to the ground or a log, use a stick—a long one—to administer the finishing touches.

No matter what snake you shoot with an arrow, it is a trophy of sorts. If you want to preserve the occasion,

assuming the lady of the house will accept it, tanning snake hides is not difficult.

Here is one way. Mix a gallon of soft water with one pint of salt and an ounce of oxalic acid. Flesh the inside of the hide thoroughly, then soak it in the mixture for several days. After removing from this solution, give the hide a four-hour bath in a bucket of water containing about one-fourth cup of sal soda or baking soda to kill the acid. While the hide is still damp, scrape the flesh side with a dull knife to break down the fibers and to soften it. A *light* touch of warm neat's-foot oil will help. Use a dusting of corn-meal or sawdust if the hide gets too greasy.





NED
SAITH



By NED SMITH

Animal boldness--a hungry weasel, a protective doe, a sparrow hawk on guard at his doorway. How to catch a doodle-bug.

ONE DAY LAST WEEK I gingerly worked a slab of rock from an outcropping on the brow of a hill, and once again felt the thrill of peering into the past. Its surface held the fossilized remains of marine animals that lived and swam and scuttled about when the rock was still primeval mud.

The earth was some 440 million years younger then, and the ridge on which I stood lay prostrate beneath a vast sea that stretched from what is now the southeastern corner of Pennsylvania to the interior of North America. The limestone slab I held was part of that ancient ocean floor, now turned to stone. The animals embedded in its thin layer of silt were common salt-water inhabitants of that day—sea-shells housing brachiopods, a lump of coral-like bryozoans, and four grotesquely flattened, segmented creatures known as trilobites. Every detail was there—the fine striations of the shells, the pitted surface of the bryozoan colony, the almost microscopic stippling of the trilobites' exoskeletons. I almost expected them to suddenly scurry away in a swirl of clouded water.

Looking at a modern Pennsylvania panorama of rolling farmland and far-reaching mountains, it is hard to visualize the tremendous changes under-

gone by its topography and, as a consequence, its flora and fauna since pre-Cambrian times. It has been inundated by oceans, smothered by silt, crumpled into mountains miles high, eroded into a peneplain, choked by reeking swamps, twisted, heaved, and broken, and in places scoured by glaciers and invaded by extruded lava.

All of this science can tell us, but, like eternity, it is almost incomprehensible without tangible evidence. Fortunately, we have this evidence in fossil records preserved in the very rocks themselves. Anyone can unlock these vaults of knowledge and be the first human to touch a primitive creature since it died 300 million years before the age of the dinosaurs and more than 400 million years before the emergence of man. Shale from a Northumberland County road cut might reveal a community of shallow sea creatures—trilobites, brachiopods, bryozoans, squid-like cephalopods with straight shells, ocean snails with coiled shells, and sea-lily columnals embossed with perfect stars. In south-central Pennsylvania he might find detailed imprints of the armor-plating of primitive jawless fishes that swam Silurian seas. In a Clearfield County strip mine he might discover the fossilized jointed stems of giant horse-

tails, and ferns the size of modern trees, typical swamp vegetation of the Pennsylvania Period. In the ancient swamps of Schuylkill County, now turned to anthracite, he will recognize the matted layers of palm-like fern-trees, seed ferns, and the strap-shaped leaves of cordaites. There, too, can be found the strange diamond-patterned bark of scale-trees and the grooved and leaf-scarred sigillarias, 100-foot giants of the 300 million-year-old swamps. If he's *really* lucky he might unearth dinosaur tracks in the sandstones of southeastern counties. It's been done, you know.



SPARROW HAWK
AND YOUNG

There's much to be gained by sampling road cuts, outcroppings, quarries, and strippings wherever you go. If nothing else, it gives you something to do when groundhog hunting palls and the summer heat makes misery of any strenuous undertaking. It also makes you acquainted with strange and primitive plants and animals, most of which vanished forever from the earth ages before there were human eyes to behold them. But most of all, it leaves you with a sense of wonder and a feeling of insignificance, and that can't be anything but wholesome.

July 1—I slipped into a small food plot in the Game Lands about mid-afternoon and found my usual seat

among the overgrown edge. The bugs were pesty and the temperature too high for comfort, but I stayed there until dark.

Hardly a half hour passed before the deer began drifting into the field from the surrounding scrub oak—mostly does, several of them accompanied by their fawns, and two bucks with small antlers in velvet.

About 5 p.m. a young wild turkey tom wandered into the field from the road, feeding as he walked along the foot of the bank at the south edge. A doe, whose fawn was near that corner of the food plot, threw up her ears and marched over to place herself between the gobbler and her fawn. Then, as the turkey moved along the edge of the field she kept pace with him, eyes and ears constantly trained on the big bird until he left the vicinity. Only then did she return to her feeding. It was obviously a deliberate attempt to shield her offspring, a pointless effort considering the turkey's harmless nature, but an amusing thing to see.

July 3—Common milkweed is blooming along every country road and in every cow pasture in the valley. To the farmer it's an unmitigated nuisance—that I can understand—but it's a good plant for the outdoorsman to know. Its young shoots are fine eating in the spring, the fragrance of its blossoms is unsurpassed, and the flowers themselves, small as they are, are among the most beautifully formed structures in the plant world. Take a close look at the next one you meet and I think you'll agree.

July 12—George was mowing the orchard this morning when a hen pheasant burst from the high grass just ahead of the cutter bar. He stopped the tractor immediately, but the knives had already laid the nest bare. Fortunately, not one of the ten eggs was broken, and he gave up the mowing project then and there, hoping the

hen would return to her incubating duties. Perhaps she will, as only the tip of the cutter bar had passed over the nest, leaving a backdrop of uncut grass only inches away.

July 13—The path along Clark's Creek is a typical tiger beetle beat, and today I temporarily abandoned the trout fishing for a better look at one. Tiger beetle fashion, he scampered ahead of me on slender legs, pirouetted nervously, ran some more, then flew a few yards. It was several minutes before I could finally ease up close and look him over. He was only a half inch long, but extremely handsome, encased in iridescent blue-green that fairly glowed as he turned in the sun. His bulging eyes and narrow thorax gave him a distinct "neck" and the underslung mandibles were evidence of his predatory nature.

Tiger beetle larvae are just as ugly as their parents are attractive. On the way back to where I had stashed my flyrod I saw several small holes in the path that were surely the vertical burrows of "doodle-bugs," as their larvae are called. The slightly depressed circle surrounding the burrow's mouth was characteristic.

Years ago I had tried Seton's method of poking a straw down the hole and withdrawing the doodle-bug as he clung to it, but succeeded only in driving the creature deeper into his retreat. Now I tried an original approach. Opening my pocket knife I held the point an inch or so from a burrow mouth and made myself comfortable. After a wait of several minutes I saw the little beast hurrying up the shaft and in a flash he had filled the doorway with his huge, flat head. Driving the blade into the burrow behind him, I flicked him out, earth and all.

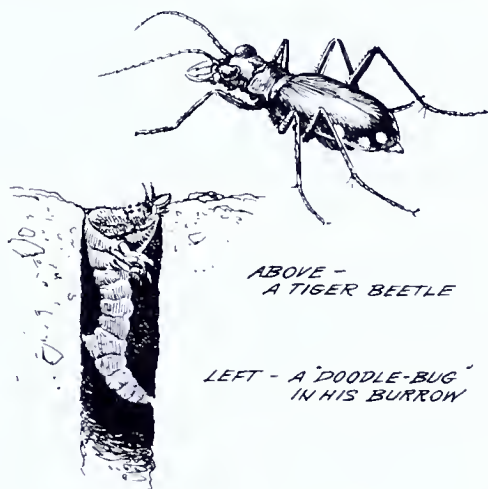
What an ugly little devil he was! His body was essentially that of a dirty white larva, but with an unusual hump on the middle abdominal segment surmounted by a pair of hooks.

The head was twice the size of his body, attached at right angles, flat as a wafer, and fitted with a pair of curved, needle-sharp mandibles.

The doodle-bug's *modus operandi* is to close and camouflage the mouth of the burrow with his head, which exactly fits the opening. Any unsuspecting insect that wanders by is clutched by those murderous mandibles and either dragged into the hole or drained of its body juices on the outside. The hooks on the larva's back anchor him firmly and prevent the victim from dragging him from his home.

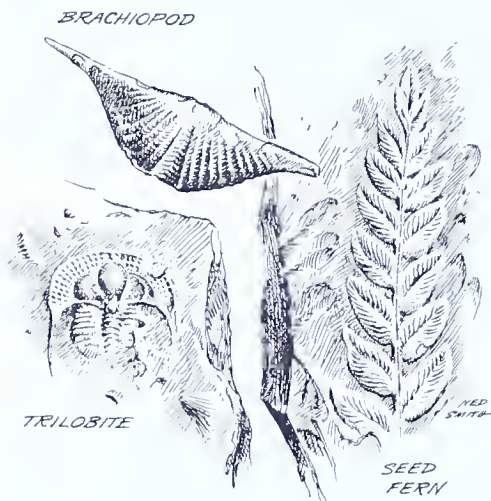
July 16—The ringneck hen is on duty on her mowed-out nest. I snapped a few pictures of her at a distance of ten feet and she never batted an eye.

July 17—Dewberries have never been my favorites; usually they are too small, too seedy, and too sour. But today I found a patch of them as big as the finest blackberries. Entirely without optimism, I sampled a few, and I must admit that they were among the most luscious berries I've ever tasted—juicy, small seeded, and sweet, with little of the blackberry's tartness.



July 20—You've got to be careful what you do to a weasel. This afternoon as I was watching some birds in the

underbrush on Mahantango Mountain, a beautiful long-tailed weasel came bounding down the mountainside. Small and short-legged as he was, his running spurts soon carried him nearly out of sight, and I let out a few bird-in-distress squeaks to bring him back. He whirled about as though radio-controlled, and headed straight for the



place where I was hunkered down. He was beady-eyed in anticipation of an easy meal. I continued squeaking, and he bounded right up on the rock beside me, where he bobbed his head up and down, measuring the distance to my lap. I'm sure he'd have jumped, but at that moment I lost my balance and had to thrust out a hand to keep from toppling over. He turned in a flash and scampered down the mountainside again, and I was almost glad to be rid of him.

July 21—Spent the afternoon in my blind behind John P.'s garden, watching the sparrow hawk family that lives in a hollow limb of his old cherry tree. They apparently know when I'm there. In the morning before I enter the blind the three young birds line up on a snag outside the cavity to be fed. When I'm in the blind the male stations himself on the snag and doesn't allow the youngsters past the threshold. They lean out, pumping their

heads up and down and scanning the horizon for their mother, but so far I've been unable to get a full length picture of a single fledgling.

How they survive is a mystery to me. I've never seen the male leave the nest, and the female brings food only once in two or three hours. I always know when she's in the vicinity, for the youngsters spot her from afar, turning their heads to follow her flight and screaming in baby tones as she comes closer. Then they'll suddenly disappear into the cavity an instant before she hits the doorway and ducks halfway inside with dinner. She comes in so fast I rarely see what she's carrying. Once this afternoon she clung to the side of the snag and passed a mouse through a crack into the nest cavity. That was my only opportunity to get a good picture of her and see what she had brought.

I did get what should be some pretty shots of the handsome little male. He and the sun both came at the same time and I took his picture perched on the snag.

July 22—Those sparrow hawk pictures I got yesterday had better be good. John called to tell me the young birds left the nest today.

July 25—Never, absolutely never, have I seen so many wild mushrooms! Everyone's talking about it. After six or seven exceptionally dry summers we've had a really wet one, and the fungi have responded in typical mushroom fashion. There are scads of chanterelles—in itself a pleasing development. If ever there was an appetizing, distinctly flavored fungus this solid, egg-yolk colored species is it. Orange-brown lactarii, delicious when baked, are even more common, and meadow mushrooms—which every mushroom hunter knows—are going to waste at a shameful rate in spite of wholesale picking.

Among the mycological curiosities popping up these days are the sensi-

tive boleti, red-capped mushrooms with minute pores in place of gills. The under-surface of the cap is greenish-yellow, but at the slightest touch it immediately changes to dark, inky blue! To distinguish the whitish color of its flesh you must look quickly, for it turns blue as soon as you slice it with a knife. My companion wrote his initials on the underside of a similar species with the blunt end of a twig. In a couple of seconds the letters E.F.L. stood out boldly in blue-black against a chartreuse background!

July 27—I watched the hen pheasant from the barn today. She was fussing with the nest—probably turning the eggs. When she left to feed, as she does late every afternoon or early evening, I sneaked a look and found only eight eggs in the nest.

July 29—I looked in on the ringneck nest this evening. Missed it again! Four of the eggs had hatched and the mother had apparently taken off with the chicks. Beats me why the remaining eggs didn't hatch.

July 31—If only I could meet the bucks in December that I see in the closed season. Just before dark three deer trotted out of the woods to graze in a field along the foot of Peter's Mountain. One was a doe, the second a dandy, tall-antlered six-pointer, and the third the most tremendous buck I've seen in years. His rack was wide and high, with long, straight points—eight of them and perfectly balanced. And from the looks of them they've still got a little growing to do. What a trophy he'd make for some lucky hunter. Come on, December!

The Fact Pack—Scientific Gun Studies

SEVEN SCIENTIFIC STUDIES on firearms ownership have been collected into a booklet of over 50 pages by the National Shooting Sports Foundation. Called the *Fact Pack*, these are the best source of accurate information on the subject ever made readily available to the public. The data is mostly from FBI statistics, but whereas many anti-gun writers base their arguments on selected entries, ignoring those which harm their case, the full picture is presented here. It proves, among other things, that there is no significant difference in crime rates between states that have firearms licensing laws and those that do not. In general, as the proportion of population possessing firearms goes down, crime rates go up. The total statistics show that fewer people with guns do not mean less crime.

The series of studies was started by Alans S. Krug as an associate researcher at Penn State. He is now assistant to the director of the NSSF. The *Fact Pack* includes these studies: The Misuse of Firearms in Crime—Extent of the Problem; The Relationship Between Firearms Licensing Laws and Crime Rates; The Relationship Between Firearms Ownership and Crime Rates; A Statistical Analysis; Current Constitutional and Statutory Aspects of the Right to Keep and Bear Arms; The Socio-Economic Impact of Firearms in the Field of Conservation and Natural Resources Management; Model Firearms Legislation for the Conservation Action Agency; and Firearms Legislation—A Scientist's Perspective.

Everyone interested in opposing unduly restrictive gun legislation should study these articles for facts to bolster his arguments. From National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878, price \$1.



New Inflatables for Campers

By Don Shiner

Photos by the Author

I LIKED packing in, as a kid, and spending a night or two in some off-beat wooded area," a friend recently remarked. "I'd go again, but at my age I can't stand lugging a heavy pack any great distance."

He had a point. Probably a lot more of us would like to rediscover camping and the outdoors by spending an occasional over-nighter out there. Man finds much of therapeutic value and a welcome change from traffic, fumes and busy work schedules when he spends a short trip camped beneath lofty pines, where only the sound of the wind and maybe far-off crows break the solitude. But here's the catch: so much gear—tent, blankets or sleeping bag, food and utensils—to name a few items—all add up to a heavy pack.

Well, if you're one of those who'd

like to hit the trail again, here's news. The day of lighter pack loads has arrived. An inflatable tent, just put on the market, goes a long way toward lightening loads on the trail. There's likely to be a big increase in traffic on out-of-way trails when word of this new tent gets around.

This tent is made of tough, lightweight plastic, with air-tube construction. Weighing only two pounds, it rolls into a package no larger than two cans of beans, yet will shelter one husky adult or two youngsters. It sets up in a jiffy, with no more trouble than a dozen good puffs of lung power. Inflated air tubes hold the tent erect and rigid. No pegs or guide ropes are necessary.

In some ways, this new tent is an outgrowth of the popular sleeve-tube shelter improvised by many back-

packing enthusiasts. These campers, whose number is outstripping even boating and archery in overall growth rate, improvise shelters from sheets of polyethylene material, of the type sold for such domestic uses as coverings for windows, dining tables and hot-bed type greenhouses. A sheet of 3- or 4-mil thick plastic is cut to about 7- x 14-foot size, and rolled or folded into a sleevelike tube. Excess material is used for double thickness on floor or bottom. A rope is run through the length of the sleeve and tied between trees to give support. When a camper climbs inside, the tube takes on that traditional triangular-shaped hip roof tent. It sheds rain and dew, keeping the camper comfortably dry. However, the open ends allow wind and moisture to enter.

Tube Supports

The new inflatable tent, manufactured and distributed by Ute Mountain Corp., 757 South Federal Boulevard, Denver, Colo. 80219, is a marked improvement over the improvised tube-shelters. Its foot end is sealed shut like that of a sleeping bag. The front edge and a seam running down the center of the roof area are sealed air tubes. A few puffs bellows these tubes and the bag pops up into a tent seven feet long and 40 inches wide at the front. There's room inside for a large sleeping bag, with space for storing gear. The sealed foot area keeps out drafts and rain, as well as heavy trickles of water that might pour past during downpours. The full floor keeps out dampness.

It's possible to roll up the deflated tent and sleeping bag in one bundle, so that both can be set up in one operation at the next campsite.

We used an improvised tubelike shelter on numerous occasions in the past, but were never completely happy with the arrangement. When we learned of this inflatable model, made of practically the same lightweight plastic material, we ordered one. We



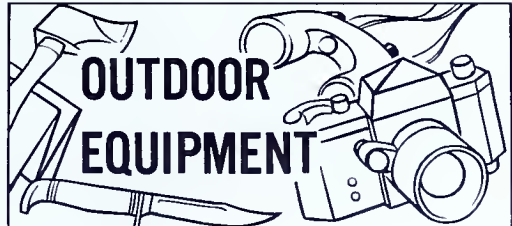
INFLATABLE TENT rolls into package no larger than two cans of beans, makes back-packing easy.

set it up in our game room the day it arrived. We became so enthused that we set out toward the end of that week for a trial go outdoors. We packed in to a lofty Appalachian ridge, and pitched camp in an area that afforded a breathtaking view of the valley.

Because thin plastic materials of all kinds are easily punctured by pointed rocks or twigs, we carefully removed all sharp objects from the tent area. We unfolded the tent and had it fully inflated in less than 30 seconds. Pictures on these pages show how we erected it.

Wind was blowing quite hard at times this day, and it pushed the pup-size tent around a bit. However, after unrolling our sleeping bag inside the tent, it became firmly anchored in place, with no pegs or ropes necessary.

Tent material is bright "International orange" color. This makes it easy to spot from the air in case of

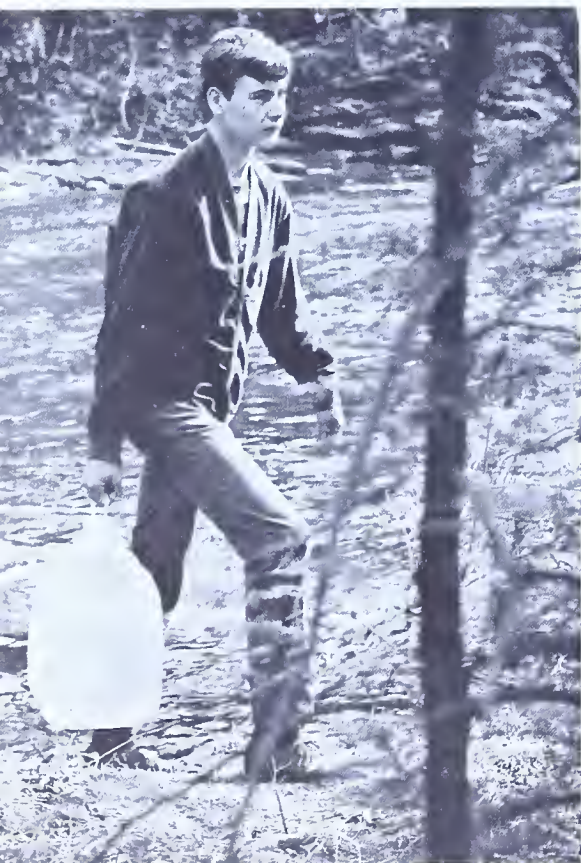


emergency. The material is somewhat translucent. It permitted light from the full moon that night to filter through. The cheerful orange glow was perhaps more restful than that of, say, green or tan, or even of clear transparency.

The Y-shaped air tube remained rigid throughout the night. We pulled the stopper in the morning, and watched the tent collapse like air escaping from a balloon. The slight amount of air remaining in the tube pushed out easily, in contrast to the real struggle sometimes necessary to deflate air mattresses. By rolling the tent and sleeping bag into one bundle, we broke camp without much bother.

Present size of these inflatables almost requires each family member to have his own, though it is possible to

COLLAPSIBLE water jug holds five gallons when full, is tough enough to take usual hard knocks that are part of camping in Pennsylvania.



accommodate two youngsters in one tent. Three, four, five or whatever number of tents are required by the family can be set up in a tight circle so that all are quite near each other. The plastic used in these tents will not support flame, but is subject to melting in intense heat, so it is not advisable to build a large campfire within the circle of tents.

We've grown fond of this inflatable model. I want my friend to see it. If weighty gear is the only problem preventing him from going camping, or at least spending a few over-nighters, this featherweight inflatable tent will go a long way toward lightening his pack.

While on the subject of new plastic articles, we'd like to mention this month (incidentally, our last Outdoor Gear column for GAME NEWS) a new jug made of tough polyethylene material. Designed for the camper, the jug is collapsible. It folds to a surprisingly small package, barely larger than, say, a stack of three or four copies of GAME NEWS, yet unfolds to hold 5 gallons of liquid. It is no football when filled to capacity, but it is sturdy enough to withstand ordinarily hard usage. It has a screw-cap on the mouth and a built-in carrying handle. Campers and boaters who never seem to have enough drinking water along on trips will find this foldable jug helping to solve that problem.

This collapsible jug is manufactured by Dewitt Plastics of Auburn, N. Y. It is presently stocked by retail stores and mail-order firms. We picked up our model from the L. L. Bean store in Freeport, Maine.

The plastic in this jug is damageable by some solvents, as most plastic containers are. It is designed expressly for water use.

Our personal testing of these products—tent and jug—shows that both go a long way toward adding new convenience for outdoorsmen who like Pennsylvania's trails.



HIGH COMB IS NECESSARY for easy aiming on scope-sighted rifle, but often is a handicap on one with iron sights.

Your Misses Aren't Always Your Fault, Because . . .

Your Gun Just Isn't Perfect

By Don Lewis

Photos by Helen Lewis

“WOW, that looked mighty close!” sang out my brother Dan, as he lowered his binoculars. “I saw wood fly beside the chuck’s head.”

“I still didn’t get him regardless of how close it looked,” I said disgustingly. “That’s the fourth shot I’ve fired at that whistle pig, and all I’ve managed to do so far is hit the tree behind it.”

“You’ll never come any closer, but, as near as I could see, you hit to the right again. Either you’re pulling to the right or the scope is off—”

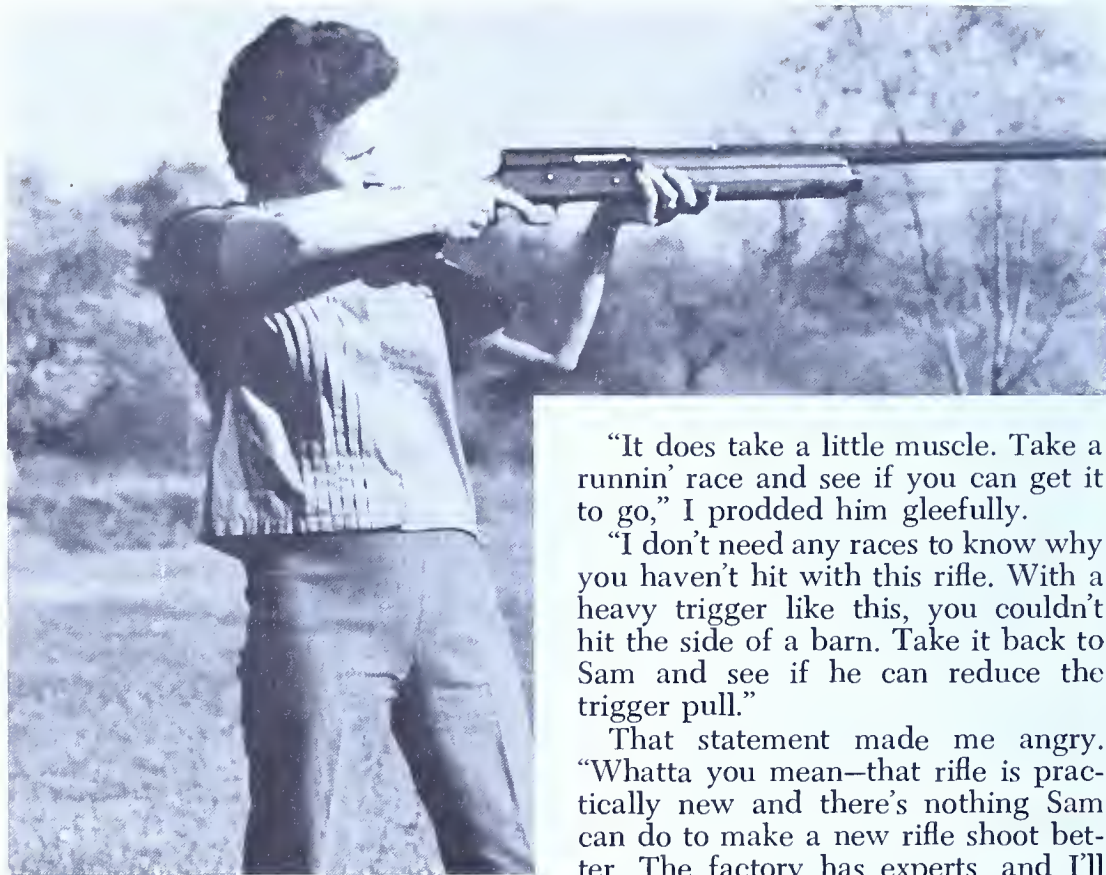
“I know there’s something wrong, Dan,” I cut in. “I don’t think I’m that poor a shot. It’s no more than 150 yards to that dead chestnut tree, and I’ve had four rested shots. That wise old chuck won’t show only his head,

but even so I should have connected by now. It’s either in the rifle or the shells.”

“Nope, there’s nothing wrong with either the rifle or your ammo,” Dan said firmly. “I still think that rifle isn’t shooting where you’re aiming. When did you check the scope last?”

“Just a week ago,” I flipped back sarcastically. “I left the rifle down at Sam’s place, and when I picked it up a day later, he told me it seemed pretty close to him. I didn’t see the target, but I’ll take Sam’s word for it.”

“Let me give you a bit of shooting advice, brother. Never take anyone’s word that a rifle is sighted in for you. Always check it yourself. What Sam thought was pretty close might be a mile off as far as pinpoint accuracy



TOO LONG STOCK makes shooter lean away from gun instead of into it, as she should. It's difficult to shoot well with such a problem.

goes. He shoots just about thirty yards into a bank by his shop, and if his bullets hit just a shade to the right at that distance, it would be error enough to put your shots off a couple of inches at the distance you were shooting at that chuck. We'd better see where that Hornet is shooting."

That was the wisest shooting advice I ever received. An hour later we had rigged up a makeshift shooting table and had a target pasted on a box 75 yards away. Dan sat down, loaded the rifle and nestled it deep in a thick pillow we borrowed from his home.

"Push the safe," I prompted, after Dan had aimed for a few seconds but didn't fire.

"The safe's off," he retorted angrily. "This trigger must have a twenty-pound pull."

"It does take a little muscle. Take a runnin' race and see if you can get it to go," I prodded him gleefully.

"I don't need any races to know why you haven't hit with this rifle. With a heavy trigger like this, you couldn't hit the side of a barn. Take it back to Sam and see if he can reduce the trigger pull."

That statement made me angry. "Whatta you mean—that rifle is practically new and there's nothing Sam can do to make a new rifle shoot better. The factory has experts, and I'll stick with them."

"I don't care how you feel about factory experts, this trigger is too heavy. If you want this rifle to shoot as it should, you'll have to have some adjustments made."

I didn't agree with Dan, but after we had fired a dozen or so rounds, we gave up in disgust since our shooting was simply a waste of ammunition.

This episode took place a couple of years before the big guns of World War II sent most of us fellows away from hunting for a few years. At that time, I knew little about rifles. I did believe that anything produced by the factory had to be as near perfect as possible or it just wouldn't be on the market. It was inconceivable to me that a new rifle could have a trigger that would require a local man's adjustment to make it operate properly.

I know now that Dan was right and I was wrong. The factory product is not always perfect and a local gunsmith—if he's a good one—might be

able to put you on the hitting side if you're having a shooting problem.

That old Hornet's trigger is probably one of the reasons I now put such emphasis on this particular item of gun work. I'm a great believer in a clean, crisp trigger setup. The trigger is far more important than most shooters realize. Remember, it's the shooter's direct line of communication with the shot he is about to fire. The trigger pull on a varmint rifle should be $2\frac{1}{2}$ to 3 pounds and big game rifles should not exceed 5 pounds.

Hidden Defects

Trigger pull is not the only thing that can cause misses. Other hidden defects can keep you in the low hit column. For a starter, let's look at average factory sights. With all our modern technology and up-to-date engineering, many rifles hit the market with sights that would make a bullfrog croak. I work on many new rifles each year, and see the latest designs dreamed up by the manufacturers. Sometimes I wonder what they are trying to accomplish. The whole thing seems rather simple to me. For one thing, the making of a fine adjustable rear sight is not that complicated, nor should it be too expensive on the factory level. When well over a hundred dollars is spent for a spanking new rifle, I think the buyer is entitled to a set of open sights that will increase his chances of getting his game.

Problems with most current designs include a lack of windage adjustment. I'm against hammering a sight back and forth while trying to sight the rifle in. In many cases, if it is not peened tight, the sight will be loose and could move out of alignment

while hunting. Such "adjustment" is so coarse, anyway, that a rifle is rarely zeroed in as well as it should be, and it's not unusual to shoot up a box or more of shells, trying to adjust such sights. The entire matter could easily be taken care of by installing a reliable

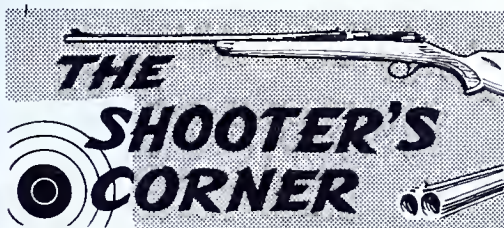


PROPER TOOL for adjusting front sight. A hammer batters sight and barrel, is difficult to control for precise movement.

adjustable sight at the time of manufacture. I doubt if the added cost would reach five dollars, and in my opinion this would enhance the rifle more than some of the gingerbread, eye-catching decorations put on many new products as sales gimmicks. I'm certain that the hunter would be far better off with a good set of sights than a glob of pressed checkering.

The thing that perplexes me most today is the high comb or Monte Carlo type stock being put on almost all guns. With one, it is next to impossible to use open sights, at least the ones installed by the factory. The shooter has to shove his face abnormally tight against the comb to see through the sights. With this much pressure, it's almost a certainty that his face is going to get bruised after a few shots. I can't see how this is conducive to good shooting. On rifles with Monte Carlo stocks, open sights should be forgotten, I feel. These stocks are meant to help the shooter use a scope more effectively, and open sights are just added expense.

The Monte Carlo stock does look impressive, and apparently it sells





TOO SHORT stock also brings problems by interfering with muzzle control and making proper swing difficult. It seems to increase recoil too.

better nowadays. However, I've had many such rifles brought to me by people who never intended to use a scope, and the first question each asked was how he could get his face low enough to see through the sights. Apparently the clerk who sold the rifle didn't point out that this stock was designed for a specific purpose and not just looks. To be usable with iron sights, the comb has to be rasped and sanded down.

Butt pads are another seemingly trivial thing, but they can cause misses. The first thing many hunters do after buying a new gun is have a recoil pad installed. Too often they do this without cutting off some wood to allow for the added thickness of the pad. The extra length can play havoc with a hunter's shooting, and he is seldom aware of the cause. Unless your shotgun or rifle has abnormal recoil or the stock is a bit too short, adding a butt pad serves no real purpose. When you consider that the average hunter shoots only a box or two of shells each year, it's pretty hard to say that recoil is a problem.

Years ago, I hunted with a man who

was a real lover of the outdoors. He could kick out more small game than any person I've ever seen. But I believe he was the poorest shotgun shot I ever saw. Grouse and rabbits seemed to make a special effort to take off in a direct line from him, and invariably he would empty his 12-gauge double without disturbing a feather or a hair. I can't recall how many times I've seen him miss the easiest shots. Since he was not excitable or inexperienced, it's still a mystery to me how he missed so much game. But I think he had a shotgun that just didn't fit him.

During the years I've had a steel plate patterning board, I've learned a few things about shotgun patterns that aren't apparent in field shooting. One example was a new bolt action shotgun. The owner asked if I would load him a few shells different than those available on the market. This request puzzled me, since I've always had a high regard for any factory ammo. He told me that in shooting more than a box of shells, he had hit only one rabbit, and—what irked him most—he had missed four shots at sitting squirrels! I told him I suspected there was nothing wrong with his shells, but that the gun had some defect. He didn't appreciate my remark, since he had just bought the gun a week before.

I slapped some white lead on the patterning plate, backed off to the 30-

SAFETY at rear of trigger guard on auto-loaders and pumps is position favored by Lewis, as it is easier to reach.



yard marker and fired. Eighty percent of the shot charge hit the lower right-hand corner of the four-foot plate. I thought I must have yanked the trigger, but when I fired another shot from a rest, there was no doubt about my aim or the trigger pull; the gun never put a pellet in the four-inch aiming point with either shot. I could see now how he missed four "dead aimed" shots. I became so engrossed in testing the gun that I fired about a dozen shells before I realized they weren't mine. I finally discovered the trouble. The adjustable choke had been improperly installed.

It will be worth the time and expense to test your shotgun with a variety of loads to see just where your gun forms its pattern. You may be in for a real surprise.

Safeties

Although the safety on any gun is designed specifically for what it is called, it has a definite influence on how well you shoot. Unfortunately, the safety gets about as much attention as does the trigger; each is just taken for granted. The position of the safe may seem insignificant, but I consider it important. On pumps and semi-autos, I dislike having the safety ahead of the trigger. Many hunters prefer it there, but I don't care for the extra reach. I do much better with a behind the trigger setup.

The double barrel's tang safety poses a problem too. It can either become so bound that it refuses to work, or it becomes so sloppy it's not safe. These safes should be checked periodically and adjusted so there is a distinct "click" when the safety is moved. Whether it is the cross-bolt type on the pumps and semi's or the slide type on the doubles, all safeties need attention from time to time. Don't foul up a good shot by having a safety that is either in the wrong place for you or is so unreliable you don't know whether it's off or on.

The rifle safe is varied and hard to



A GUN THAT FITS makes it comparatively easy to bag difficult targets like this ruffed grouse.

explain. I think the worst setup is when a military action is scoped without installing a new low swing safety. The old safety cannot be raised to its "safe" position since it strikes the scope. In this condition, the hunter could accidentally jar or bump his rifle off safe. For the few extra dollars involved, a low-swing safety is worth the money.

There are a number of things that can be done on the local level to improve the performance of any gun. Bedding the action of a rifle or changing the pitch on a shotgun stock are only two possible cures for the ills that cause you to miss. There are many more. If you are plagued with consistent missing, it might be advisable to determine just whether it is you or the gun. I know that the accepted theory is that it is always the shooter who is to blame. My years of gun handling have produced some rather startling discoveries, and I can emphatically state that that accepted philosophy is purely conjecture. You must shoot under controlled testing

conditions to find out how these little problems can contribute to poor shooting. When you shoot at game, you really never know what went wrong. When you simulate hunting setups to test for different problems, a reasonable explanation can be found.

Before you head for the nearest sporting goods store to trade in your

present gun, a few minutes spent with a good gunsmith might throw some light on the ailment. His knowledge and years of experience will prove helpful, and it could save you from buying another gun. I'm all for buying a new outfit, but if you ended up with the same problem, what would you tell your wife?

Book Reviews . . .

Hatcher's Notebook

In any field, certain books are recognized as classics. Serious riflemen/experimenters have for two decades placed *Hatcher's Notebook* in this category. Now in its third edition, the late Major General Julian S. Hatcher's extensive work is probably the most useful single volume available to riflemen. Out of a lifetime of experience, General Hatcher assembled accurate notes on countless firearms aspects, problems, theories and procedures. A few of the subjects included are histories of the Springfield and Enfield rifles, machine gun and semiautomatic military rifle development, strengths of different actions, observations on recoil, gunpowder development, accuracy specifications, cartridge defects, how to determine ballistic coefficients, and cartridge dimensions and identification tables. The answers to an awful lot of gun questions are in this book. It should be in every guncrank's library. (Stackpole, Harrisburg, Pa., 1966, 640 pp., \$10.)

Handloader's Digest

The fourth edition of the *Handloader's Digest*, edited by John Amber, who puts out the *Gun Digest* each year, has just been released. To phrase it simply, for the millions of shooters who roll their own ammo, be they handgunners, riflemen or shotgunners, the catalog section of this big book is the best single source of data on available equipment. Furthermore, forty feature articles by the country's leading handloaders provide extensive information on all phases of the game. John Lachuk's "Fundamentals of Handloading for Handguns" takes beginners through a step-by-step course, while Ken Waters' excellent "Case Capacity Tables" and Earl Clarke's "Sectional Densities and Ballistic Coefficients" will appeal to long-time reloaders who know the importance of these characteristics. In other areas, "Group Squeezing" by Warren Page tells how to get the top accuracy out of a given rifle; Ed Yard's "Chronograph and the Handloader" gives full data on the use and care of this valuable tool, and Francis Sell reveals a lot of scattergun secrets in "Shotgun Bores—Facts and Fancies." All handloaders will benefit from this book. (The Gun Digest Co., 4540 W. Madison Street, Chicago, Ill. 60624, 1968, 316 pp. 8½ x 11. \$4.95.)

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COVER PAINTING BY RON JENKINS

All too often, a hunter fails to realize that a dog, to be a useful, full-fledged partner in the fall, must get considerable training in late summer. No one who goes afield, man or dog, can expect to perform adequately after a nine- or ten-month layoff. A breaking-in period is necessary. This is the time to get back into top physical condition, to get rid of the few pounds built up during the lazy months, to get feet toughened for the long grind. The regular dog training season is August 1 to March 31. Take yours.

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Columnists . . .

SOME MONTHS AGO it occurred to me that it might be fitting to give a little credit to our writers, and I used this page of the magazine to do so. This turned out to be a pleasant task, for it gave me a reason to consider the friendly relationships existing between this office and numerous free-lance writers scattered across the country—though admittedly most of these live in Pennsylvania. As is to be expected, we've never met a lot of these contributors, though we correspond regularly and talk on the phone often.

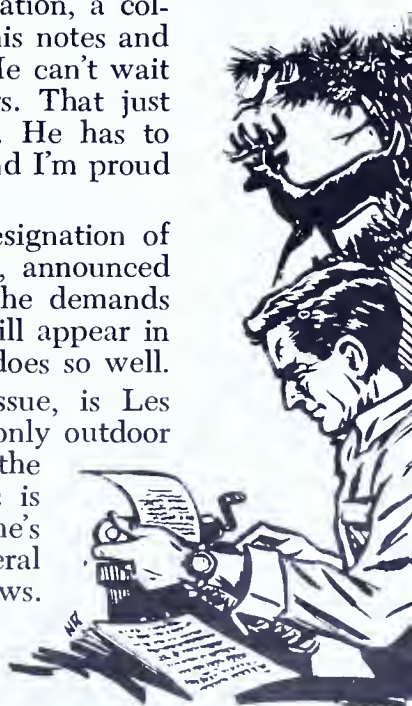
Some reflection on the response to this editorial (if it could truly be called that) and a recent occurrence that I'll explain in a moment turned my thoughts to another group of GAME NEWS writers—the columnists. And maybe it's time they got some credit too.

Even longtime subscribers may not realize that about one-third of the copy that goes into each issue of GAME NEWS is turned out by our columnists, Ned Smith, Keith Schuyler, Don Lewis, Don Shiner and John Behel. These are persons I *do* know, personally. We've visited in each other's homes, attended state and national writers' meetings together, gabbed for hours about all facets of outdoor life (somehow, though each writes a specialist's column, all are interested in anything and everything to do with the sportsman's out of doors), debated the best ways of presenting material for readers' benefits, argued heatedly when our viewpoints differed (though we've never quarreled), and in general enjoyed each other's company.

I doubt if most readers realize how tough it is to write a column. Deadlines have a way of always being tomorrow—at the latest. And deadlines have to be met. So sometime during every month, whether he has a minor headache or is recuperating in the hospital from a major operation, a columnist has to find the time and energy to assemble his notes and photos and crank out a couple of thousand words. He can't wait for the "inspiration" that activates some free-lancers. That just doesn't come around often enough or on schedule. He has to write—accurately and well. This our columnists do, and I'm proud of them.

This editorial was brought on, in part, by the resignation of Don Shiner, a columnist and friend for many years, announced in his last Outdoor Gear article. We're sorry that the demands on his time just didn't permit him to continue. He will appear in these pages in the future with the photo stories he does so well.

Replacing Don, with his first column in this issue, is Les Rountree, who will write on camping—perhaps the only outdoor sport which has wide appeal for all members of the family, be they toddlers or great-grandparents. Les is particularly well qualified to cover this field, as he's spent most of his free hours during the past several decades roaming Pennsylvania's mountains and meadows. We're certain what he says will be helpful and interesting to all outdoor people, and are glad to welcome him to GAME NEWS.—*Bob Bell*





Would I Encourage a Boy to Shoot?

By **George Bird Evans**

Photos by Jack Gates

I'VE SEEN shooting men bewildered when a son they expected would grow up to share their love for guns and dogs turned out to feel complete lack of interest in these things. One youngster I know tried for years to humor his father by hunting with him, but the enthusiasm just wasn't there and eventually both had the good sense to face it. This same father found himself sought out by a neighbor's son who was starved for a chance to hunt but whose father couldn't have cared less. One of my friends has a 28-gauge Parker gathering dust because neither his son nor his son's son wants to shoot.

Some boys ask only for the opportunity to hunt, but they are not typical of today's youngsters, especially those in urban families. Perhaps it's because they see wildlife threatened by the spread of population and it seems to make no sense to shoot it. Yet when I think of what a boy would miss if he didn't shoot, I would offer him not an excuse for killing but a chance to consider the other aspects of a shooting life, and let him decide if he thought the pleasures were worth the price.

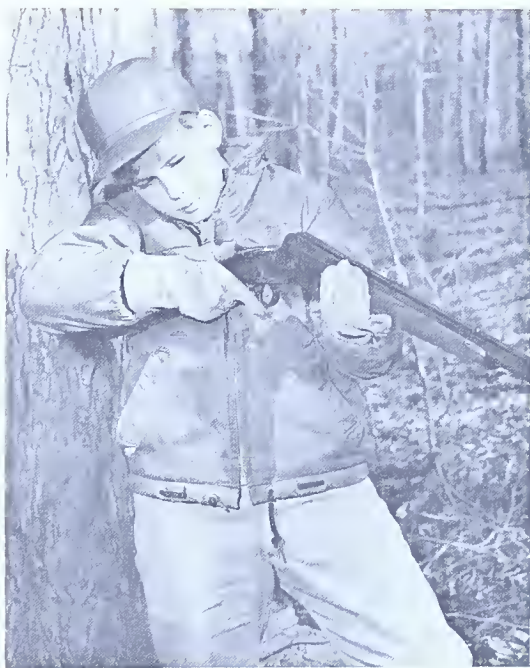
As a mature man I've asked myself if I would have taken up hunting if I hadn't started as a boy. Watching a hen grouse guide her brood across a road, I experience doubts. But then I see the dark eyes of my setters fixed on me, begging for the wonderful companionship that exists between us, and I feel old urges push back my doubts and I know that it has to be like this, at least for me. But what about the boy? Would I encourage him to be this way?

As long as the shooting season lasts I view the bleakest woods with zest; once it is closed something seems lost, though the woods is just as beautiful. To look out on endless mountains without thinking of the birdy coverts they hold is to miss some part of them. The hiker gets out in open country but does he penetrate it like the man who shoots? A boy, being a boy, will love dogs, but what breeds other than gun dogs offer such depth of experience? The world of shooting holds magic for a boy and I would regret seeing a son of mine grow up and miss it. But it is important to guide him into the best of that world.

Guns Gave Goose Pimples

I loved guns from the age when I could draw pictures of them and just looking at a "real gun" gave me goose pimples of delight. True, we start out as little savages and the stock of my Daisy air rifle carried notches for the sparrows I accounted for. When I recently asked a young boy what game he wanted to shoot he answered, "Anything that lives." In guiding the young shooter I would see that there was none of that, if only to partly absolve my sense of guilt about those sparrows.

When I grew older I had a pact with my father which permitted me to stay out of school one afternoon each week during the hunting season. This didn't endear me to my less sporting-minded classmates. The experience shaped my character but I don't think it warped it, and from this distant view those November afternoons with my father are precious memories, while I can't recall one memorable afternoon spent in a classroom.



A PROPERLY trained young gunner looks through the bore of his shotgun each time he picks it up and always before loading.

There is something about the act of shooting that is good for a boy, just as it is good for a man. A male who can't handle a gun feels less than whole. Knowing what to do and doing it is healthful, physically and mentally—an atavistic gratification in a world of inhibitions. Wing shooting amounts to the essence of that, with no time for second thought or hesitation. I would stress that competition has no place in field shooting, unlike sports played with a ball where winning seems the *raison d'être*. Most of all I would try to instill a sense of responsibility in the boy, putting it clearly up to him what he is doing each time he shoots, that it is his obligation as a gentleman to harvest game only according to his code.

A friend told me his son seemed keen for shooting until he bagged his first pheasant. Either from inexperienced gun handling or because the gun was too small a gauge, the pheasant was only crippled and it turned the boy against further shooting—an exciting

prospect abruptly become ugly. I can sympathize with the youngster. But even here, if the shock is not too great, the boy can learn to handle situations that must be attended to, pleasant or not. I still don't enjoy dispatching a wounded bird, but remembering I have done it regardless of my feelings has helped me to face other unpleasant tasks when confronted with them and to get them done and over with.

Ignorance Equals Danger

If my protegee preferred to do his shooting at clay targets instead of game birds I think I would admire his choice. But the feel and smell and the beauty of guns belong in a man's, and therefore a boy's, life. In starting a boy, the first thought is the danger in handling loaded firearms. The most potentially dangerous individual with a gun is the man who has never fired one. Before he has learned bad habits a boy can be taught to handle a gun safely, almost by reflex.

At first, a boy should learn to shoot either a rifle or a shotgun, not both. If a rifle, his first game can be squirrels. I naturally think of wing shooting, a pretty ambitious way to start but it can be done. I would start him with an air rifle and *never* let him shoot at a stationary object. Making certain that he shot with both eyes open, I would have him shoot at a large rolling ball so he could see where he was missing. Next, he would shoot at targets swinging pendulum-style against a backdrop to observe how he was missing. When he was old enough to ignore recoil I'd graduate him to clay targets from a skeet trap, using light loads in a shotgun.

It isn't fair to ask a boy to shoot a 410 in a situation where most of us would find the pattern inadequate. The 20-gauge is ideal. A double is safer than a repeater for it can be easily checked to see if it is loaded. Though allowed to load only one barrel at first, the boy should be drilled to break open the gun immediately

after the shot. This puts it back on safe in the case of most doubles.

I would teach my pupil to check that a gun is empty each time it is picked up. When I got through with him he would be incapable of pointing a gun muzzle at anything he didn't want to hit, or of touching any gun except by the wood or with gloves on, or be able to let a gun stand uncleaned overnight. There is an unwritten rule that at end of day a gunner's duty is first to his dog, then his gun, and lastly to himself. And as part of his shooting manners my boy would learn to break open his gun when standing with others. I can remember learning to do these things and they give a boy a sense of pride.

The age at which a boy should start shooting depends upon the individual. At eight he is not too young to begin with the air rifle but I don't think he should try a shotgun before 10 or 11. He should learn to break at least some clays before he is taken afield. And until he is in his late teens he should not go out without an adult.

Too often a young shooter is permitted to shoot his first game bird on the ground "to keep him from getting discouraged." This is like teaching him to cheat in order to win. If a boy has the proper stuff in him he will value his first hit flying as worth waiting for.

Shooting Fosters Bond

Shooting can foster a close bond between a boy and a man of almost any age. It is best when it is between a boy and his father but it can be with someone outside the family so long as the boy is given sound guidance. I would stress the beauty of his quarry, that he learn its habits and ways to determine age and sex. And when he was served the first piece of game he had shot—probably a rabbit or a squirrel—he would remember it as the most delectable morsel of his life.

One drawback to starting a boy with a really fine gun is that the stock which fits him in the beginning (and



YOUNGSTER compares old-fashioned shot-shell made entirely of brass with a modern one of plastic.

it must fit him if he is to shoot well) will have to be altered or replaced as he grows. A section of walnut can be skillfully added to gain length, or a recoil pad or a stock boot may be used. If the first stock is expendable, a restocking job is the solution after the young shooter has reached full growth.

Along with his shooting I would give the boy an opportunity to examine fine old guns until the beauty of their lines became etched on his brain. I would teach him to cherish craftsmanship, to learn what proof marks mean, to know what terms like "hand" and "cast-off" signify.

A boy who did not shoot would not only miss the manners of the sport, he would be unaware of the beauty of its language. Fox hunting is rich with terms that make it glow. Falconers today use language from the *Boke of St. Albans* printed in 1486: "point of pride"; a falcon's "train" or tail; her "deck feathers."

I would dissuade a boy from using phrases like "clobbering a pheasant." There is a language of gunning which reflects the dignity of the sport. When you shoot a game bird you "drop" it,



FIFTY-YEAR spread between the ages of author and friend means nothing in a shooting companionship.

you don't "clobber" it, nor do you "dump" it like a load of garbage.

"Covey" is part of a shooting man's vocabulary, but a green youngster would probably say a "bunch" or "flock" of quail. I would teach him that a covey is comprised of a mated pair with their young of the past summer, while a "bevy" is made up of several coveys. A "gaggle" of geese

may strike the boy as rather far-out, but certainly a "wedge" of geese carries impact. And a "skein" of ducks evokes a line of winged bodies against a sunset he will never forget after he has seen one.

If at all practical I would give the boy his own dog to train and handle and he would learn the difference between when a dog was "stanch" (holding a point until the bird was flushed) and "steady" (holding while the bird was flushing); what it was doing when it was "roading" (ground-trailing) or making a "cast" and "quartering." I think he would find it interesting to learn that the old-fashioned command "charge" was not a direction to the dog to lunge in and flush the bird but to lie down and wait while the muzzle-loading shotgun was being reloaded or "charged" with powder and shot.

You can shoot a brace of birds and you will still have two, whether you call them a brace or something else. But calling them a brace gives that extra touch of color not only to the birds but to the summer. Along with his personal code to apply to his shooting, his knowledge of guns, his love for beautiful dogs and gallant birds, the boy who has been shown the glamour of shooting has a standard by which to measure life, and once he's known it he is unlikely to be content with less.

So, if you were to lay the question in my lap, my answer would be "Yes. I would encourage a boy to shoot—if I thought he would be worthy."

20 Million Hunters Spend \$81 Million for Licenses

The sport of hunting continues to gain followers, with more Americans taking part now than ever before. In the fiscal year 1967, 20,000,000 hunting licenses, tags, permits and stamps were issued, according to the U. S. Department of the Interior's Bureau of Sport Fisheries and Wildlife. This is an increase of about a half million over the previous year. Hunters spent \$81,000,000 for these licenses, up from \$77,000,000 in fiscal 1966. This amount, it should be noted, is for licenses only, not the total spent by hunters in pursuit of their sport. This amount is estimated on a national level to be approximately \$1,250,000,000. That's one and one-quarter *billion* dollars!



HARRY ALLAMAN, right, proudly displays his first spring gobbler, which was called in by Lou Stevenson.
Photo by Earl Wise

“T” for Turkey, “G” for Gobbler

By Louis W. Stevenson

“T” Day, “G” Hour: 5:36 a.m. on May 6, 1968, the opening hour of Pennsylvania’s first spring gobbler season.

LIKE MANY thousands of Pennsylvania turkey hunters, I had been looking forward to the opening of our first spring gobbler season with mixed emotions. I had shot a fine 20-pound gobbler during the 1967 fall turkey season, which meant I could not shoot one now. But I could still go out, without a gun, and call for others. The big question was, could I entice a spring gobbler within shooting range of one of my hunting companions?

Our hunting party consisted of Keith Schuyler, president of Pennsylvania Outdoor Writers Association, who writes the archery column each month for the **GAME NEWS**; Earl Wise of

Berwick, retired president of the Wise Potato Chip Company; Harry Allaman, host of “Call of the Outdoors” over WGAL-TV, Lancaster; and Den Austin, columnist for *The Montreal Star*, Montreal, Canada, and president of Quebec Outdoor Writers Association.

Keith wanted to get a turkey with his bow and arrow, and Earl wanted to film the action. Den wanted to shoot a turkey. Harry wanted to get a gobbler and he also wanted to film a story on Pennsylvania’s first spring gobbler hunt for his television program. I just wanted to see if I could call a Pennsylvania gobbler.*

*Lou is being modest. Since 1931 he has called in and bagged 30 turkeys for himself and called in almost 100 for other successful hunters.—Ed.

T-Day morning was cold in Tioga County. The thermometer registered only 27 degrees when we left my home at 4:30 a.m. It was still dark and decidedly colder when we parked along the mountain road where we planned to start the day's hunting.

I had scouted the area previously, and knew turkeys were in the vicinity. There was a trail we could follow in the dark to get to the area we hoped would be the right spot. As we began climbing the side of the mountain we were shivering from both the cold and the anticipation of what the day might bring forth.

About halfway up the mountain, my companions found hiding spots in the laurel, slightly in front of and on each side of me, some 25 yards apart.

Would we hear a gobbler? Would he answer my call? Could I lure him into shooting range? These thoughts were running through my mind as the first streaks of daylight appeared.

Suddenly, a short distance to our right and higher on the side of the mountain, a turkey let loose with what sounded like the granddaddy of all gobbles!

Turkey Bedlam

My first question was answered. We had heard a gobbler. And immediately, from across the valley, four other birds answered that first call. Each one tried to outdo the others. For a few minutes there was turkey bedlam. Then they eased up a bit.

When they had been quiet a few minutes, I gave a series of yelps on my turkey talker. There was no question about an answer. All five birds started in again and kept on calling, but they gave no indication they were moving in our direction. This continued until nearly 6:30 and still we had seen no turkeys. Suddenly, they became quiet. They wouldn't answer my call. Something or someone had spooked them. No doubt other hunters were in the vicinity.

After some waiting we heard a tur-

key calling from far up the valley. I decided we would try to move closer to the bird before calling. We eased carefully along an old trail on the mountainside, stopping frequently to listen and to try to pinpoint the gobbler's location. When we got as close as we could safely go without alarming it, we hid ourselves and I tried a few yelps.

Two birds answered immediately. It sounded as if they were together, and they kept calling and moving in our direction. This continued until almost 7:30, when we heard another gobbler join the chorus. He was to our left and down the mountain. This bird meant business. He not only was interested in conversing with us, but he also wanted companionship. His calls kept moving closer and closer. There was no question but that he was coming to investigate.

After what seemed like hours of waiting, I heard a movement in the leaves. I immediately crouched lower in the depression I had selected, trying to keep out of sight. I knew that to call now might alarm him, and I knew too that he had located the precise area where we were hiding and no further calling would be necessary.

The bearded gobbler passed Earl at about 20 yards, and Earl, wishing his camera could fire a load of chilled 4s, let him pass without taking any pictures, afraid the sound of the shutter might alarm the big bird and spoil someone's chance for a shot.

He passed Keith at about 60 yards—too far for the bow, particularly since there was considerable underbrush between them—and continued on toward Harry. And from 25 yards, Harry became our group's first successful Pennsylvania spring gobbler hunter.

A beautiful bird, he weighed a little over 20 pounds. After our sincere congratulations to Harry for his success and to Earl for his sportsmanship, we spent considerable time examining the gobbler—the finest game trophy in

Pennsylvania, I believe.

On Wednesday, Den Austin shot a bird weighing 20½ pounds, which he proudly took to Montreal to show to his Canadian hunting friends. On Thursday, Clarence Myers of York, who had joined our party, also shot a nice gobbler.

Much Learned

We learned many things about turkey hunting during our first spring season. First, that it is necessary to get into the woods early—before daylight—and to remain quiet. Also that spring gobblers answer a call much quicker than do any turkeys, hens or gobblers, in the fall. I learned too that for some reason it is much easier to get a turkey to come uphill to a call than to entice it to come off the top of a mountain. We saw very few hens, proof of the contention it would be the gobblers that would answer a call early in the morning during spring season.

During the week I talked to many hunters. Everyone had seen or heard turkeys. The birds appeared to be in every part of the county. Hunters reported having as many as eight gobblers calling in one day. Nearly all of the turkeys shot were large birds, many in the 20-pound range. Every hunter questioned was enthusiastic about spring turkey hunting.

Although I have, on many occasions, heard turkey gobblers calling, I never before heard the thrilling sound of several wild gobblers calling until the volume of their calls seemed to fill the entire valley.

Woods Alive

In the fall, most of the songbirds have departed for the South and the leaves have fallen; and while it is a beautiful time of year, the woods and mountains are rather barren. However, in May, as the sun rises, the woods come alive with the sound of birds singing, grouse drumming. All the trees and shrubs are fresh and



NOTHING MAKES the hike home shorter than a 20-lb. gobbler draped over your shoulder!

colorful with their spring foliage.

Never again will I shoot a turkey in the fall, unless it happens to be an exceptionally big bird, if a spring gobbler season is scheduled. If I do shoot a fall bird, I still won't pass up the tremendous thrill of a spring gobbler season. I'll leave the gun at home and carry just a turkey talker. Right now, I am hoping for a 1969 spring hunt. And I know my home will be bursting at the seams with hunting friends impatiently waiting with me for G-Hour.



N. ROSAIO

The Last Hunt

By John Plowman, Jr.

CAN MAN PREDICT his destiny or future? This has always been a question in our minds. Sometimes it seems easy to say yes. Among the brotherhood of hunters, thoughts of collecting a Triple Trophy Award, bagging a 10-point buck, making a double on grouse or a similar hunting feat sometimes turn into reality. There are other things in the future too. . . .

The last time I hunted with John Holz, I sensed that he was unusually aware of his favorite sport. Never before had he demonstrated such eagerness to get outdoors. Don't get me wrong—he always loved hunting, but this time it was different somehow.

It was one of those perfect days in the latter part of the 1967 small game season. We met in Halifax Township, Dauphin County, this time. John had brought along his wife, Ann, so she too could enjoy the benefits of hunting. What are they, you ask. Well, they're different things to different people. John Holz interpreted them as: being outdoors; late autumn scenery; fall colors splashed upon the hills; the change of pace, even for only a short time, from life's routine. So often taken for granted, these are especially appreciated by the sportsman. John was conscious of these treasures.

John always asked for permission to hunt, no matter how often he'd been to an area before. This is not always the way with some hunters, but it was a rule of road, or sport, with John.

He was on his toes this trip—a good sportsman, like many of the fraternity, though you won't find his name on the awards list for this conservation feat, or that World's Greatest Hunter trophy. He wasn't inspired in that direction. His reward and honor was that he could enjoy the game. . . .

I once loaned him one of my shotguns. He used it sparingly, carefully and accurately. He certainly wasn't a meat or market hunter. A rabbit or pheasant was enough to make the day perfect for him—and even that wasn't necessary. A good habit to get into. I always enjoyed seeing how his mother beamed when he presented her with a ringneck.

We found game on this trip, and John harvested some of it. Not all. He let more flushes go untouched than most of us would. We jumped several pheasants and one rabbit that day. He took the rabbit, and two shots at a ringneck, but that was it. It was his way to leave some for the next guy. After all, he'd be back next year.

On the way home, the shooting over, the chatter and friendship in his car were like that at deer camp. I'm referring to talk, memories and past trips, not anything else. Reliving and retelling the day's action and experiences were part of the whole trip for John.

We were both happy and relaxed from the hunting, and felt good. We made plans for the next time we'd hunt together, although it would be a year away. You see, John was an Army helicopter pilot, on leave for the hunting season. He would soon go to duty in Vietnam.

Warrant Officer John F. Holz . . . soldier, husband, father, friend, sportsman . . . won't be with us in the fields and woodlands this coming season, or ever again. He paid the supreme sacrifice for his country and way of life in December, 1967. He believed in preserving and protecting the freedom and privileges of our land, and one step further, the freedom to appreciate and participate in the outdoors and hunting. No one can do more.

What Do Beavers Eat?

By Earl L. Hilfiker

Photos From the Author



HIS BROAD, paddle-like tail is the special trademark by which the beaver is known the world over. No other creature has one like it. A close second to his tail in identifying features are his great chisel-like teeth. These are self-repairing and self-sharpening, and grow as long as their owner lives.

It would be difficult to find a creature better known than the beaver or one so greatly misunderstood. There are few creatures concerning which there are so many false impressions about his habits and way of life. One of the first questions one hears about him is, "What do beavers eat?"

It once was commonly believed that beavers prey upon fish and eat them. Actually, a beaver is a strict vegetarian who has a digestive system that any goat would envy. Where some plant eaters will starve, he thrives. The fact that his range once extended from the Atlantic to the Pacific and from the tundra country of

the sub-Arctic down into the mountains of Old Mexico, from rain forest to desert and from densely wooded country to the prairies is proof of this. Wherever water stood or flowed and willows or poplars grew, he thrived.

The beaver once numbered in the tens of millions, yet he nearly went the way of the passenger pigeon, the heath hen and the Labrador duck. Today he exists only because of the protection man gives.

In the densely wooded area that covered most of his domain, the beaver had a food problem. A large part of the food he required was at the tops of the trees. He could not climb like the squirrel or porcupine. He could not compete with the mouse, the elk or the deer for the leaves and bark on the lower branches. So he solved the problem by cutting down the trees and bringing the branches within his reach. By so doing he let in light and created an edge condition which made it easier for other eaters of plants.

Eat What's Available

Many attempts have been made to list the types of food the beaver eats. This has been mostly a waste of time. Beavers eat the plants that are available. Like humans, individual beavers display different preferences in food. One general statement stands, however. There is no American plant so hard, so bitter or so gummy that beavers will not eat and digest it. Probably the most common food plants are the poplars and the willows. However, even spruce is cut and used—in places and at times, inexplicably, where favorite food types are available. The digestive system of a beaver can even

break down and use woody substances.

The beaver is a living chemical factory, superbly suited by nature to convert the lowest quality of vegetation into meat. The digestive juices are so powerful that they break down cellulose. His digestive system is so large and its contents are so heavy that he waddles when he walks and his movements on land are slow and clumsy. Fortunately, in the water it is no handicap. The beaver is a superb swimmer and glides through the water with effortless ease.

He is well known as an eater of bark, but he browses on twigs and leaves and grazes freely on the grasses in clearings around his ponds. He also feeds on aquatic vegetation. He consumes vast quantities of duckweed. Water lilies, especially the so-called yellow cow lily or spatter dock, are favorite foods. In summer he eats the leaves and at all seasons he digs up the roots. In spring after the ice is melted the bottom of a beaver pond resembles a plowed field because the entire bottom has been dug up for roots. In a pond with a capacity population of beavers, which often is a

family of ten—two adults, four sub-adults and four kits—there is likely to be little vegetation of any type in a pond, especially if it is a small one. As time goes on the beavers may have cleared away the trees and brush from around the pond until they are forced to move to a new location where food is more readily available.

The beaver does not confine himself to the eating of leaves, bark and grasses. He is very fond of fruits and mushrooms. These he consumes with gusto. In fact, he sometimes gets a bit impatient waiting for apples to fall off the trees and makes himself less than popular when he cuts down the trees to get them. Everything and anything of a vegetable nature is grist for his mill. Even types that are poison to some plant eaters—laurel, oak and cherry—he freely cuts and eats.

It is interesting to observe beaver cuttings in various localities. In a pond in Caton, N. Y., a beaver pond was started in late summer. Either the young beavers were improvident or winter came too soon. They stored no food pile. All during the winter there was nothing to indicate what they

FOUR BEAVER-CUT LOGS lying in four directions prove that beavers do not pre-determine the direction in which a tree will fall.



were living on, but when spring came and the ice melted clumps of alder fell over like lines of dominoes. Only the ice had been holding them up. All winter, the beavers had traveled under the ice and cut away the roots and when spring came the tops toppled over and died.

Starvation Diet?

Evergreens are supposed to be a starvation diet, yet in July beavers were cutting and eating spruce, pine and hemlock in a body of water called Long Pond at Gale, N. Y., in the Adirondacks. In June, beavers were cutting and eating hemlock around ponds in northeastern Pennsylvania not far from the Delaware River. In both cases poplars, birches and blackberry bushes were equally available.

In northern Pennsylvania and southern New York, blue beech is often chosen over poplars, yet it is one of the hardest woods in America. At Sharon, Conn., beavers cut and use black cherry that grows in stands of poplars, yet the leaves of the cherry produce prussic acid. In the Adirondacks and New England, yellow birch is a favorite food tree. One of the most interesting stumps of a beaver-cut birch stood near a shelter at Lake Colden in the Adirondacks. This was

HOW BIG A TREE will a beaver cut?
This one measured over 43 inches at the bottom of the cut!



THE BEAVER'S chisel-like incisor teeth are efficient cutting tools. They are self-sharpening and grow as long as the animal lives.

cut off at least six feet from the ground and some of the hikers who traveled the trail that went past it must have thought a very tall beaver had done the work. What really happened was that a beaver got hungry when there was a big snowbank around the tree. In Algonquin Park in Ontario beavers favor hard maple. Along the Colorado River at Lee's Ferry in Arizona tamarisk is cut and stored in food piles.

Competition

In spite of his ability to cut and use almost any plant that grows, there are places where he faces severe competition. In the Navajo reservation the land is grossly overgrazed and over-browsed by livestock, especially sheep and goats. In Yellowstone Park where his tribe was once abundant he has practically been "elked" out of the park, and where he has survived here he is reduced to the cutting of pine. Conditions were once ideal for beaver in Yellowstone. Poplars were abundant, there was little competition, and wherever a tree was cut there was a rank sprout growth from the roots. There also was a plentiful supply of moose willow and yellow water lilies.

The population explosion of the elk changed conditions. When the elk was a threatened species the wolves were eliminated, and with a major predator removed the elk thrived to a point where their range is now grossly over-browsed. As fast as poplar sprouts stick their heads up, elk crop them off. The poplars have disappeared in many places where they were once plentiful. Even the elk are now forced to eat pine. Plenty of old beaver workings are in evidence, some of them very large ponds, but the beaver is becoming a rare animal in Yellowstone and even deer are fairly scarce because the elk stands taller and can reach higher to browse off branches higher than deer can reach.

Cutting Tools

The cutting tools of the beaver are most impressive. His chisel-like incisor teeth are self-repairing and are sharpened with use. The front part of the tooth has a thick layer of extremely hard enamel. Behind it is the softer dentine that wears away faster and exposes the enamel to form a sharp new cutting edge. It is absolutely necessary for a beaver to cut hard things to keep his teeth in good condition. If he were reduced to a soft diet his teeth would eventually grow so long that he could not close his mouth. (He sometimes gnashes his teeth to wear them down.)

The speed with which he does his cutting is amazing, and one needs only to look at the chips he takes out to realize just how fast he can fell a tree. However, a frequent sight around a beaver pond is a large standing tree or several such trees that have been worked on over a considerable period of time. Often, such a tree stands beside a well-used trail and whenever the beaver passes by he stops to take a few bites out of it. Such a tree could well be used to keep the teeth worn down and sharpened.

Easy to Answer

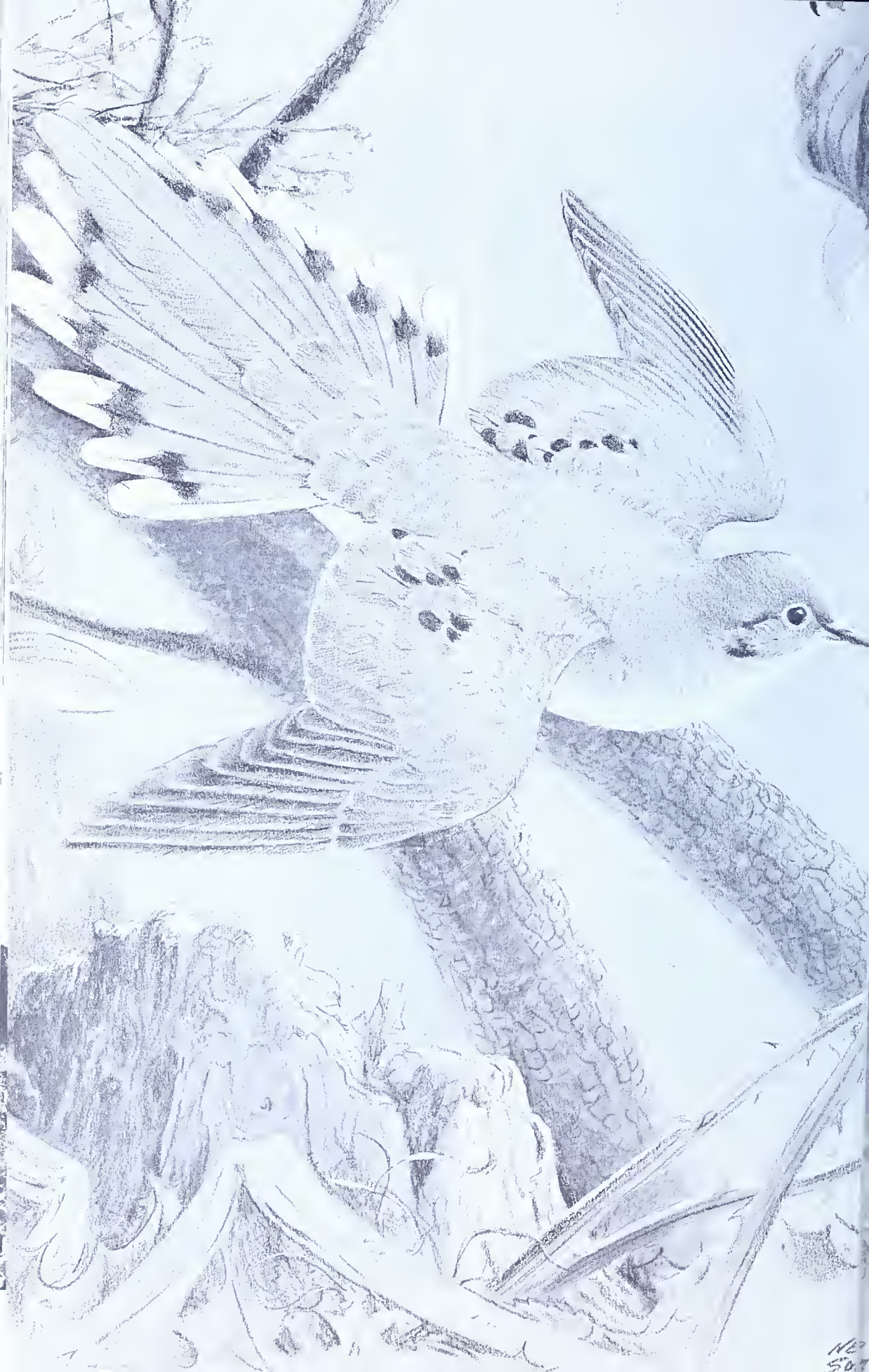
And so the question "What do bea-

vers eat?" is easy to answer. They eat anything in the form of vegetation. In summer this is usually leaves, grasses, twigs and buds, fruits, berries and bark. In winter they live chiefly on the bark chewed from sticks cut from his food pile and from roots dug up from the bottoms of his ponds.

A second question usually follows: "How big a tree will a beaver cut?" In answer to this one we can say that he prefers saplings four inches in diameter or less, but he can and does fell trees of saw log size. Classic examples of the large size of trees he occasionally cuts can be seen along the Snake River in Grand Teton National Park. There beavers cut a stand of huge cottonwoods. Several of the stumps are close to three feet across, a few are larger, and one measured approximately 43 inches across at the base of the cutting.

BEAVERS APPARENTLY have chewed occasionally at this poplar over a long period, perhaps to sharpen their teeth.







By NED SMITH

A hot summer month brings a wide assortment of wildlife--five copperheads, four flying squirrels, five bucks, a white crow and a long-tongued moth . . .

TWELVE MILES from my home, where several mountains converge, there's a wedge-shaped piece of rugged real estate that stretches nine miles to the east. Its steeper slopes are forested with oaks, maples, and birches, the flat tops with scrub oak. Spring-fed streams drain its watersheds. It offers good hunting, endless miles of hiking, and nature snooping as good as any. Best of all, I can go there any time I wish and do anything the laws and regulations permit, and no one can run me off the place or charge me for using it. That's because I own it--along with about a million other Pennsylvania hunters. It is called State Game Land 210.

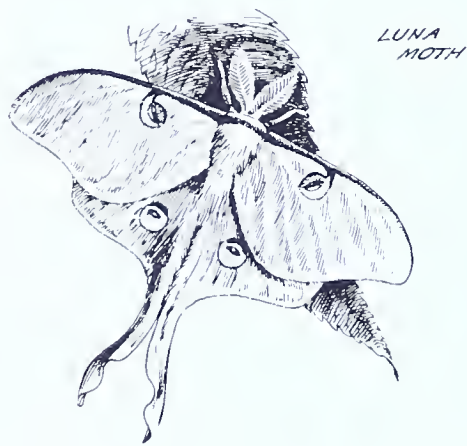
Surprisingly enough, twelve million other Pennsylvanians have the same privileges (even though they don't hunt or buy licenses), but few of them are aware of it. They also have the run of 243 other equally enjoyable Game Lands in the state which comprise more than a million acres--land bought by the hunters of the Keystone state for *everyone* to use.

State Game Land 210 happens to be the one closest to my home, which means it is the one I visit most often. But others are just as interesting, and some more so because of different

characteristics or their own special features. There's one in Cameron County where I've enjoyed the sight of a bull elk and three cows drifting down a mountainside. There's another in McKean County where a big black bear made footprints over the stand I'd just vacated. A Game Land in Bradford County provided us with incomparable grouse hunting, and one in Wyoming County with a picture-book trout stream. Rare wild flowers and unusual birds have made our hikes eventful in others. Frankly, my outdoor ramblings would have been noticeably less rewarding without these incomparable acres which belong to you and me.

August 1—While drifting by Half Falls Island in my canoe this morning I heard the fussing of excited house wrens and the clamor of their nestlings. Landing, I found their nest, an old woodpecker hole in a dead birch which the female wren had stuffed with twigs and grasses. Nesting sites of this type were probably more commonly used before Man provided ready-made birdhouses. Apparently it was a satisfactory nursery, for the nearly full-grown babies it held were bright-eyed and ready for flying.

August 5—I hadn't checked the cocoons in my studio for several days, and was surprised this morning to see a newly emerged luna moth clinging to the edge of the door, slowly fanning her elegant green wings. It took but a minute to set up the camera and lights, plus a freshly cut walnut sprig for her perch, and her portrait was soon recorded on color film.



Luna moths are often called our most beautiful insects, and I'm not about to disagree. Her swallow-tailed wings were a delicate shade of cool green, with a brownish-purple band across the leading edge. Each was decorated with a gold and brown eyespot surrounding an elliptical "window." White, silky hairs clothed her head, legs, and body. Actually "she" was a he, as evidenced by the broad, plume-like antennae.

August 6—Today I got some much-needed pictures very unexpectedly. I had stepped off the mountain road back of Shull's to examine some unfamiliar fungi when something popped out of the leaves beside my foot. My first thought was that I had stepped on a stick, causing the other end to snap upward. A closer look, however, revealed that the "stick" was in fact a copperhead in the leaves.

Stepping back to bare ground I

rigged up the camera with close-up tubes and a strobe light, silently gloating at my good fortune. Then I squatted down and leaned forward to bring him into focus for a frame-filling close-up, but the angle wasn't right. Glancing around for a better spot to kneel I was more than a little astonished to see another copperhead coiled in the leaves about two feet from my left knee! Without moving I scrutinized the leafy ground and saw another one three feet ahead of me, then another behind the first!

They all seemed content to lie there with their noses in the air and stare coldly as copperheads do, so I took some pictures of number one. However, most of his body was hidden by leaves, so I gently removed them with a stick, uncovering still another copperhead—the biggest of the bunch! Five of the venomous critters in a space the size of a card table!

To make a long story short, I got a number of photos before they moved, but when one started there were snakes going in all directions.

Why the concentration of snakes? This was no denning area, and the only plausible explanation is that the summer was exceptionally rainy and this was the only well-drained and reasonably dry spot in the vicinity.

August 8—Noticed dried grass sticking out of one of my bluebird nesting boxes in the fencerow and found it stuffed to the lid with grass, with a neat hole extending downward from the entrance. Something was in there, that was obvious from the excited birdlike chirping and nervous trembling transmitted to the nesting material. I put my eye close to the hole and the inhabitant responded with a sharp rap on the inside of the box. The thump of small feet was repeated each time I tried to peer inside. By that time I was sure it was a flying squirrel from the nearby woods, and that she had a litter of young ones in the nest box.

I checked the box after dark with a flashlight, and sure enough — there were four baby flying squirrels near the bottom in a nest of finely shredded inner bark topped with a mass of dried grass and bits of paper. They were bare and pink and wrinkled, and their eyes were still closed. The only hint of their identity was a rudimentary flap of skin—the beginning of the “flying” membrane — between the front and hind legs on each side.

I don't doubt that our population of these pleasant little nocturnal animals could be increased by putting out suitable nest boxes in the right places.

August 12—Stopping to listen to something along the Greenland Trail today I was showered with what proved to be the scales from a green pitch pine cone. Six feet above me sat an impertinent red squirrel, diligently gnawing the cone apart to get at the seeds and dropping the discarded scales on my head. In the same pine tree was a platform of boards built by a deer hunter, and on it the squirrel had heaped a tremendous nest of dead leaves, pine needles, and shredded inner bark.

August 13—Several “oak apples,” the spherical galls found on oak foliage, were lying in the path, probably cut down by hungry gray squirrels. Like many of nature's curiosities, they were rather pretty on close inspection—perfectly round and smooth, pale greenish white delicately marbled with reddish. Scientists still do not completely understand how galls are formed. Most result from certain insect eggs being laid in a twig or leaf tissue. When the larvae hatch an unknown stimulus promotes abnormal growth of the plant tissue, forming the gall. The different types number in the thousands, and more than three hundred are found on oaks alone. Oak apples like the ones I found are formed by a small tiny insect called a gall-wasp, or Cynipid.

I cut one gall open, the interior was pale and spongy, and curled up in the center was the cause of it all, a little white grub probably less than three-sixteenths of an inch long. It will pupate there, then chew a hole through its spherical house to emerge as an adult.

August 14—A small flock of blue-wing teal flashed by, heading downriver as though they were late for something. Actually they are early, as they always are — the earliest migrating ducks to reach our area on their southward trip.

August 17—I was threading my way through a slashing today when a dove dropped out of a head-high tangle and fluttered excitedly to a nearby limb. Investigating, I found her nest astride a pair of dogwood trees that had been bent over like croquet wickets by falling timber. The nest itself, holding one newly hatched young and an egg, was composed entirely of the dried stems of pennyroyal, a plant which grows profusely in the drag roads and clearings.

August 18—Gene M. called this morning to tell me that the white crow that's been visiting his sweet corn patch had just returned. I hurried up to his farm where I waited on the hill-





side while Gene moved through the corn rows to flush him out. Two normal black crows were first to take wing, but seconds later out came the white one. He landed in a nearby locust tree and I was able to ease up to within seventy-five yards and study him through the binocular.

He wasn't an albino, but was a very pale silvery-gray—almost white. The bill was dark and so was the eye, and the area around the base of the bill was tinged with pale brown.

Gene tells me this strangely colored bird has been frequenting his place for a week or so in company with his black brothers.

August 19—Nature's ingenuity is apparent almost everywhere. Last evening at a miniature golf course we saw an example of how she has adapted certain insects to feed from deep-throated flowers whose nectar cannot be reached by bees. In this case the flowers were petunias in a planter; the tipplers were slender-winged sphinx moths that zoomed from flower to flower beneath the artificial lights. Their tubular tongues, normally rolled up like watch springs, were unfurled and inserted into the flower's corolla as the moth hovered in midair. The nectar was sipped through the tongue, like soda through a straw. We caught one of the moths,

and a later measuring session established that its fully extended tongue was a trifle longer than its head-and-body length!

August 23—Why do some small areas seem to have an abundance of bucks—or at least a high ratio of bucks to does? There's a small farm carved out of the woods on The Ridge that seems to attract more than its share of male deer in late summer and fall, and this year is no exception. Last evening I watched two deer come out of the woods to graze in an old clover field. The first was a four-pointer with long, high antlers that nearly touched at the tips. The other was a very nice six-pointer. In a nearby overgrown apple orchard I was treated to the sight of an absolutely tremendous eight-point buck—a perfect trophy rack in every way. He hadn't seen me, but slowly worked his way into some dense pines. Before he was out of sight another buck strolled by an opening in the high weeds. Through the binocular I could see only one antler—a large one with at least four points—but because of the dense weeds I couldn't be sure he actually had two antlers.

Shortly after these two deer disappeared I heard the dead weeds crunching close at hand, and soon saw a fork-horn moseying my way through the shoulder-high goldenrod. I thought he might walk right up to where I was crouching, but instead he swung to the left and nearly exploded with fright when he got my scent a scant ten feet away. On my way to the road I saw two more deer—does, as far as I could see.

The bucks' antlers now appear full grown beneath their covering of velvet. A few days earlier I felt the rack of a captive eight-point buck. It was hard to the very tips, and the velvet had a harsh, dry feel, indicating that growth was completed. The die is cast, sad to say. The four-pointer in August will still be only a four-pointer in hunting season.

GOLF-CHUCK

By Bill Walsh

"OH, OH!" Chan started to chuckle so violently he had to put the binoculars down. I had seen it, too, and tried to control my own laughter so I could continue looking. It's difficult to see through 8X glasses that are jumping up and down.

We were watching Chan's son, Mike, belly-crawling toward the crest of a small knoll in the hayfield. From there he'd be able to get a shot at the woodchuck we'd sighted from the road. What we could see from our vantage point was that as Mike approached the knoll from one side, the chuck was feeding in from the other.

Shortly, each would rise up for a cautious look-see and be staring into the other's open mouth. Such a sight would be too good to miss.

Now if you're a chuck hunter you're probably wondering why we didn't have Mike shoot at the critter at legal distance from the road if we could see it from there. Well, we were playing a new game—Golf-Chuck! No, you don't take your golf clubs out to the rolling meadows and try to bean a groundhog with a long drive. The



game is played with guns—deer rifles. And it has a definite purpose.

Sure, we have chuck guns for chuck hunting. And we use them, too. But this new game has a twist to it. Y'see, that old game with the big barrel is judged by *high* scores—who shoots the *most* woodchucks at the *greatest* distances.

The shooter who wins our new pastime makes the lowest score—as in golf. You can win it with only *one* chuck to your credit even though your buddies have many more to theirs. 'Cause the boy who takes the marbles

is the fellow who shoots a chuck at the shortest distance during a day's hunt.

I mentioned that this game has a definite purpose. Actually, it has more than one. The biggest of all is *fun*. The fringe benefits improve your stalking skills and get you accustomed to the feel of that deer gun long before buck season is ushered in.

Sound Easy?

Does it sound easy as compared with polishing off groundhogs from 200 to 500 yards away? Well, wait until you hear what goes into a round. First of all, shots taken over 50 yards don't count. Part of the equipment used in our hunting game is a weighted handkerchief—one of those country-style red ones with a stone tied into the corner of it. When a player hits a chuck his first duty is to drop the handkerchief at the spot from which he fired. We then measure the distance to the chuck with a steel tape.

All shots must be taken offhand. Even though the chuck is in the open; even though the hunter has made a cautious stalk across open fields with little more to hide behind than a clover leaf—when it comes time to take the shot he must rise up and get both knees off the ground to make it “legal.”

I first played this game 20-odd years ago with Jim Walker in Erie County where we'd lucked into some seldom-hunted alfalfa fields. Literally dozens of chucks were attempting to overpopulate the countryside. We hunted them with the heavy-barreled wildcats we were fooling with at the time . . . in what seemed like a post-war frenzy to drive a bullet out of a rifle at the highest imaginable velocity.

In those days chuck season came in on July 1, which coincided nicely with the first cuttings of hayfields in that section of the state. Our big guns soon took their toll of suddenly-exposed woodchucks that “never knew what hit them.”

Before the second cutting, however, the fertile fields pushed a lot of vigorous growth into future fodder. A chuck standing at full height between bites might show you little more than the tip of his nose. As shots got fewer and farther between, we decided to try our luck sneaking up on a few. After a few tries at this we soon came to the logical conclusion that we carried too much scope on too much gun for this kind of sport. So we turned to the deer rifles. Our rules that we follow today evolved out of those first excursions into the new pastime. One that has never varied, however, is that every member of any chuck hunting party must wear (and keep it on at all times) the brightest, most fluorescent-in'est orange hunting cap or hat that he can find.

Another unbreakable condition is that only one member of the party can play at a time, even if while one member is stalking a chuck on one side of the road you discover another one waiting to be stalked on the other side. You do everything you can to keep from spooking the newfound chuck, of course, but you must wait until the shot on the first one has been measured before stalking the second.

Draw Straws

We draw straws to see who stalks first. On the day Mike and the woodchuck were working their way toward a probable face-to-face encounter I was teaching the game to a set of completely new “hands.”

Everyone politely offered to drive but I turned them down. Using my car saves a lot of time when it comes to the necessary business of obtaining the landowner's permission. I've already gotten it in advance at so many places that they know my car. They also know that I know where the pastures are and in which directions the houses lie. I stop regularly for a chat, though not necessarily on the day I hunt. Most of these farmers hunt themselves and they understand. Some,



WHILE CHUCK HUNTING, Chan Kirk and son Mike always wear fluorescent orange caps, to make sure other hunters can see them.

however, shake their heads sadly at the spectacle of a grown man wasting all that time shooting at such lowly critters as groundhogs.

The first field with a chuck had nothing but woods behind it for half a mile. George Scriba—he's president of the Clairton Sportsmen's Club—had drawn first crack so we sent him off for his initial taste of golf-chucking. I'm glad it wasn't me. I'd tried to bag this particular chuck more than once. All I ever got for my trouble was grass stains and once a bee sting on the elbow.

It's a big square field and the chuck has his hole smack in the middle. The woods on three sides are equidistant and offer no percentage. There's only one way to get him—down on your belly, wiggle-crawling like a fox.

Your only advantage in this field is also your biggest drawback. A series of slow-rolling undulations hide you while you're behind them but expose you utterly and completely when you must top them. This is where I always goofed—usually just as I made the last rise.

It happened to George, too. Just as he was hung up on the brow of the last knoll—with the biggest part of him clearly outlined on the horizon—the chuck sat up. One quick look and

the little animal streaked for the hole.

"That takes care of that!" I said, and laid down my glasses.

I turned to Chan and Mike just as the rifle cracked. I hadn't reckoned on the agility of one Scriba. He had leaped to his feet, picked up the chuck with a kind of wing-gunning swing of the rifle and drilled it cleanly with a slug from his 32 Special.

Sure, he tried to act modest as he carried the chuck in and announced that the shot had been taken at 35 feet! But we didn't let him.

Chan was next. We found his chuck sunning at the entrance to a hole in a pasture corner. Never having hunted there before, we drove to the farmhouse where the owner told us he'd be happy to be rid of that chuck.

We figured Chan's best bet was to make his approach as far as possible through a woodlot. He'd then have to decide at what point he could best work to the fence, stand up and take his turn. With George's 35 feet to beat, I wasn't betting on him, but in this game playing is fun even when you lose.

He'd invested about 20 minutes in the stalk when two boys and a pair of farm dogs romped from the far woods and headed for the road. The chuck nose-dived in. I keep a police whistle

in the car for this kind of situation and tooted Chan in. It saves a lot of time when the audience can see what the stalker can't.

We discovered Mike's chuck in a field similar to the one in which George had done so well. The difference was that our view was from a sidehill road so that we looked down on the action.

. . . Waiting

Mike took most of a half hour to get to the point I told you about at the beginning. Now it was a question of holding our breaths and our about-to-split sides . . . and waiting. I handed my binoculars to George.

"If he gets a shot," George grinned, "he'll beat me for sure—and I'll buy him all the ice cream he can eat on the way home."

I didn't need the glasses to see the action. Only a dozen feet and the slightest of rises separated them now. Mike lay motionless, his head along his arm, apparently catching his breath for the last minute or two of the stalk.

The chuck had no notion of danger. He was moving and feeding quite freely now, spending much more time down than up. From my vantage point I determined that Mike lay only about 25 feet from the chuck's front door. The chuck had narrowed the gap to maybe six feet and was still coming. It seemed impossible they couldn't see each other.

Then it happened! I guess the kid figured he was close enough. He started to push himself up for a sneak preview—just as the chuck straightened to full height, as stiff as though he had a ramrod along his spine.

Now, they were in no danger of

physical contact at that point. But to all intent and purpose it was eyeball-to-eyeball. You could see the two separate bodies stiffen in shock and surprise. Naturally, the chuck recovered first and fastest. The boy was all gangly arms and legs and frantic uncoordinated motion as he jumped to his feet and attempted to draw a bead on the disappearing chuck. He didn't make it.

Mike walked over to the hole, stomped on it, looked down into it, looked up at where he knew we waited and spread his arms in a sign of resignation. He began the long walk back to the car.

Chan saw it first. The kid was no more than 20 feet from the hole when the chuck popped out and sat erect on the mound of dirt. Mike continued to walk away. We waved our arms—jumped up and down — practically choked with excitement. Then I finally remembered the whistle. I gave a long, loud blast and the kid stopped and looked at us.

"I thought you were all crazy," he told us later, "jumping around and waving your arms like maniacs. Then I thought maybe there was a bull in the field coming up behind me. So I turned around."

I must say it didn't take the youngster long to do what was expected of him. He beat George's shot by four feet. Now it was my turn to try, but I'd had it and we got Mike his ice cream instead.

Sure, we'll be out taking long shots at woodchucks when the hay is cut next year. But come late summer we'll be playing golf-chuck, too. I gotta get one closer than 31 feet or have some young feller I know rubbing it into me for years.

Shooting—the Popular Pastime

On a world basis, only track and field sports attract more participants than competitive shooting.

1967 Grouse Hunting Survey

By Stephen A. Liscinsky

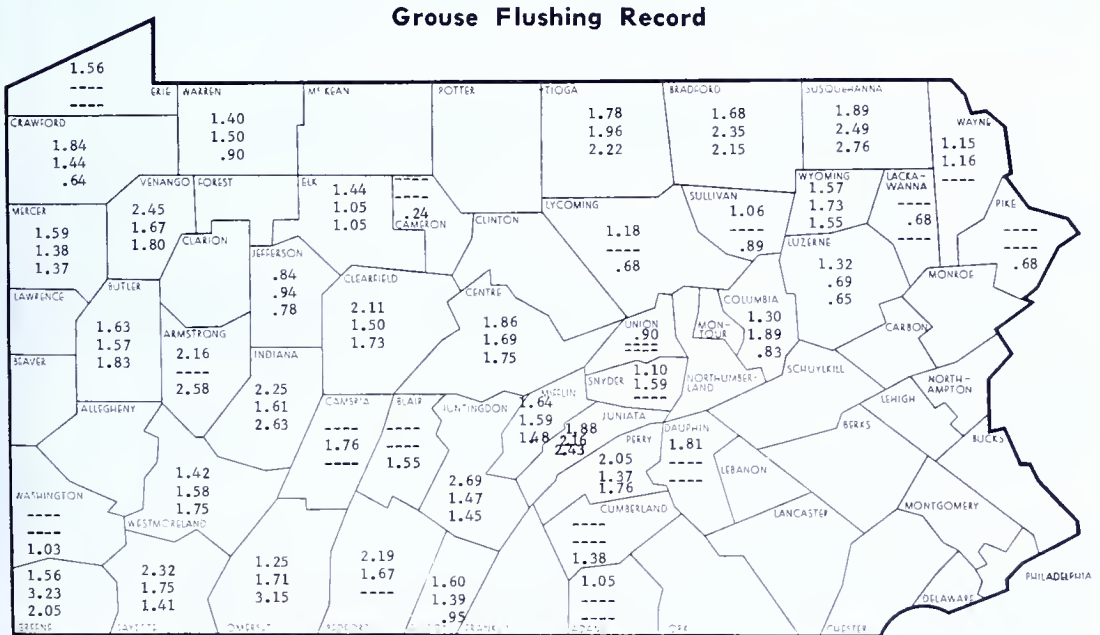
SCATTER-GUNNERS who rate O'Ruff the most challenging of all game birds continued to support the Pennsylvania Game Commission's grouse hunting survey by submitting pertinent information concerning their trips afield. As many readers will recall, this survey, inaugurated in 1965, was designed primarily to sample year-to-year flushing rates or, in other words, hunting opportunity. Hopefully, these changes in hunting opportunity will serve as a yardstick to measure fluctuations in grouse populations.

In presenting the data submitted by volunteer cooperators throughout the state, an attempt was made to show probable trends in flushing rates by comparing the 1967 information with that collected during the preceding two years.

On a statewide basis it was obvious

that there was a decline in the average flushing rate from 1965 to 1966 and an increase from 1966 to 1967. When broken down on an individual county basis, however, this pattern is not consistent. Flushing rates continued to decline in some counties, while in other counties there was evidence of a recovery from the 1966 low. Again this year the Pocono Region of northeastern Pennsylvania had the unenviable distinction of providing the poorest flushing rate per man-hour expended. The accompanying table and map show these differences as well as county details where the hunting effort was sufficiently large.

Reaching conclusions from the statistics of a sample is like enlarging a photograph. Small defects can be magnified into serious and misleading blemishes. So as to minimize imperfections in the survey under discus-



Flushes per hour for counties where sample size represents more than 50 hours of hunting.

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Top Number      - 1965 Data
Middle Number- 1966 Data
Bottom Number- 1967 Data
(----)         - Insufficient Data
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Ruffed Grouse Flushed per Gun Hour—Michigan

Year	Upper Peninsula			Northern Lower Peninsula			Southern Lower Peninsula		
	High	Low	Average	High	Low	Average	High	Low	Average
1965	2.38	.39	1.22	3.37	.96	2.20	5.11	.17	2.21
1966	1.37	.55	.87	3.89	.81	2.08	2.94	.32	2.00

For the state as a whole, Michigan rated their grouse hunting as good in 1965, and fairly good in 1966. By these standards Pennsylvania continues to provide some top-notch hunting for the grouse enthusiast.

sion, average hourly flushing rates were calculated only for those counties where the sample showed an expenditure of more than 50 hunting hours. In order to improve and expand on data collection all interested grouse hunters who are not currently included in the survey are requested to get in touch with the biologist in charge, Stephen A. Liscinsky, 623 S. Fraser Street, State College, Pa. 16801. A short note expressing your interest in participating is all that's needed for inclusion in the 1968 study. When combined with hundreds of cooperators, the few minutes required by an individual to keep track of his grouse hunting activities will go a long way

toward increasing our knowledge of this important game species.

For a number of years Game Department personnel in Michigan have been using changes in flushing rates as an index to grouse abundance. From this and other information collected over two decades, they have concluded that years ending in 5 and 6 have been generally poor—presumably the cyclic low in the grouse population. Some insight into how flushing rates in the Wolverine State change from year to year and from region to region may be seen in the accompanying table.

This study was not a part of the Game Take Survey.

Statewide Grouse Hunting Record—Pennsylvania

Data Source	1965			1966				1967			
	Number of Hours Hunted	Number of Grouse Flushed	Flushes per Hour	Number of Hours Hunted	Number of Grouse Flushed	Flushes per Hour	Percent Change From Previous Year	Number of Hours Hunted	Number of Grouse Flushed	Flushes per Hour	Percent Change From Previous Year
From <i>all</i> survey cooperators who submitted grouse hunting data.	8018			4856				5110			
		13,057			7191				8470		
			1.62			1.48				1.66	
							— 9				+11
From 30 survey cooperators who spent more than 30 hours hunting grouse each of the three years.	2317			2263				1773			
		4117			3204				2810		
			1.78			1.42				1.58	
							—20				+10



HAWKS

*across
Pennsylvania*

By Ron Jenkins

Marsh Hawk

(*Circus cyaneus*)

RESEMBLING a giant sparrow hawk, the female marsh hawk courses low, back and forth over grass and stubble fields, hunting for small rodents and birds. Long wings enable her to use the slight tricky air currents close to the ground and turn on a dime to strike at prey which might momentarily show its presence.

Marsh hawks have an owl-like facial disc of feathers, which aids their acute hearing by funneling sound to their ears. When hunting on the wing over tall grass, the marsh hawk makes good use of this modified hearing device, and is able to "home in" on his prey with accuracy.

Very long legs, adapted for his life on the ground, also aid the hunting bird, giving him a long reach for use in the grass fields.

Seemingly tireless in flight, marsh hawks almost never perch in trees, but rather on a fence post or on the ground. As their name implies, marsh hawks build their nests on the ground, in lowlands among high marsh grass. A clutch of four to six dull white eggs (sometimes marked with pale brown spots) is normal. They usually are laid in May.

Young marsh hawks are hatched in June, rather late, and are fed by the parent birds at the nest site.

Male marsh hawks are beautiful pale gray birds, while the female is dark brown above with white underparts heavily streaked with brown.

The best identifying mark in the field is a white rump patch which is clearly visible as the bird flies low over fields.

Marsh hawks appear larger than they really are because of their long wings and tail, but in actual body size they are about the same as a crow.

Prior to nest building, the male marsh hawk goes into his courtship display. Rising high in the air, the male descends in a series of breath-taking, tumbling, rolling maneuvers until he almost hits the ground, then ascends to do it all over again. This procedure will be repeated many





times until he has convinced the female hawk that he is number one.

Marsh hawks are beneficial to farmers because of the many mice they take. Of the birds eaten, most are the small variety of seed eaters which frequent the grassy fields. Generally, over 60 percent of the marsh hawk's diet is meadow mice and other small rodents. Many frogs and reptiles also are eaten. As the young progress with their growing, the selectivity of their diet weakens and the parent hawks become pure opportunists, willing to take anything that will fill the hungry youngsters.

Watching a hunting marsh hawk is seeing poetry on the wing. One can almost hear the sound of music as the

hunting bird quarters this way and that, with hardly an apparent wing-beat. Then—the crash of cymbals as he makes a sudden strike at a mouse! I doubt if the birds think this way of themselves, but it is quite easy for an observer to become enthralled at the possibilities for adding to such beauty.

If you chance upon a marsh hawk nest during your trips afield, you might find the female quite aggressive, and willing to forsake her own safety to make a few passes at you. Back up, and allow her to raise her family in comfort. Watching with binoculars from a vantage point might earn you the pleasure of seeing the entire family in flight as the parents teach them the joys of living.

But When They Do . . .

Skunks are docile creatures. Many live a lifetime without releasing the musk they depend upon for protection.

Muscular Midget

Ants are capable of lifting 52 times their own weight, which is equal to an average-size man lifting 8000 pounds.

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Wildflowers

By Ken Calnon

WEBSTER describes beauty as: "Those qualities that are most pleasing to the eye." I would like to describe it another way—*wildflowers*! From the very smallest bud to the largest blossom, one can see beauty in any wildflower.

Wildflowers grow in most parts of our state. Being individualists, they prefer different types of soil—some the rich, moist soil of riverbanks, others the dry, rocky soil of wastelands, while still others are fond of the damp soil found in low meadow bottoms. Wherever wildflowers are found they add beauty to our landscape. Do you recognize the six Pennsylvania species shown on these two pages?



Swamp Smartweed

The swamp smartweed is a living example that all wildflowers need not be large or showy to be beautiful. What this dainty wildflower lacks in size, it makes up in beauty. The spikes are densely packed with extremely small buds and flowers, the latter having rich pink petals with deep rose-pink centers.

American Water Lily

This blossom with its many narrow pointed petals rides on the surface of the water like a cork. A long hollow stem fastened to the root serves as an anchor. The broad platelike leaves also float and offer resting places for insects and frogs. Color varies from pure white to deep shades of pink.





Turks-Cap Lily

Turks-cap lily is the extreme opposite of the dainty smartweed, as it is a large gaudy wildflower. The rich orange flowers are dotted with red-dish-brown spots. The plant itself is also of large standards, reaching heights to four feet.



Common Milkweed

The flowers of this plant vary in color from cream to pinkish white and have a pleasing spicy odor. Their name comes from the milky white liquid which is in all parts of the plant. In the fall the seed pods ripen, split open, and the seeds sail away on their "parachutes."



Orange Day Lily

This large orange wildflower is commonly seen growing en masse along country roadsides in summertime. Some say it got its name from the blossom being open only one day. Nevertheless, without these colorful flowers our roadsides would be a little drab.

Purple Loosestrife

To see this flower with its unusual shade of purplish-pink coloring is breathtaking, to say the least! The plants average three feet in height and the flower spikes are fastened to the tops of the stems. The leaves are attached in alternating pairs.





BOB PARLAMEN sends his Labrador, Pat, on "blind retrieve" while Conservation School youngsters watch. Below, Pat sits proudly with a Pymatuning goose, and makes a water retrieve.



PAT WILL retrieve anything, Bob says. She delivers a dove to him, at right.



A Dog Makes

IT'S POSSIBLE TO HUNT A C most enjoyment anyone can e days spent with his own dog, b retriever or spaniel. Or whatever make an irreplaceable companion. good dog work, especially when only by the satisfaction resulting shoot. Take advantage of the dog to get ready for a successful hunt



e Difference

Often, it must be done. But the
his time afield comes on those
gle or basset, pointer or setter,
long pedigree isn't necessary to
side that comes from watching a
rained him yourself, is matched
his finding of all the game you
g season, August 1 to March 31,
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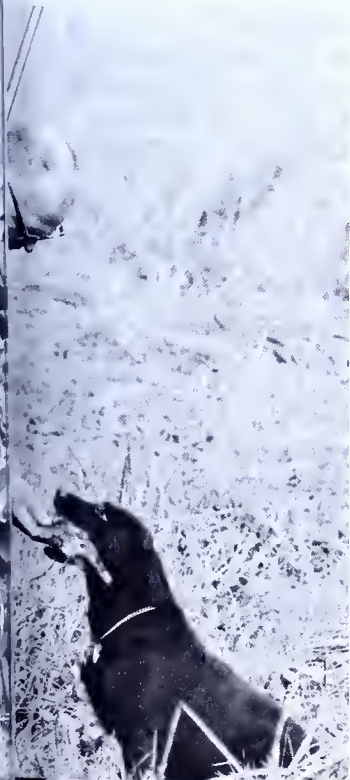
By Bob Parlaman



A GOOD RETRIEVER simplifies duck hunting, as suggested top left. Pat stands motionless, above, as proved by fly on her head, while waiting for Bob to take dove.



SO EAGER TO get downed duck that she "walks on water," below, Pat waits patiently while Parlaman talks to her before taking bird, above.





FIELD NOTES



The Pleasure Was Ours, Ronnie

ERIE COUNTY—(Copy of letter received from a young student, dated May 22, 1968): "Dear Mr. Simpson: Thank you for coming to our Conservation Field Day. I liked your station best of all. It taught me not to play with guns. I never knew a 22 cal. could put a hole that big in your skin. I learned what a BB gun can do. I liked Trouble and his tricks. I also liked the beaver's teeth. Thank you again for helping to make our Field Day so successful. Sincerely, Ronnie Colvin, Grade 4."

I had conducted a station at a school field day and taught the importance of safe handling of guns. I demonstrated the power of 22 rifle by shooting into a cake of soap, stressed the danger of BB guns, and told the students a little bit about training and taking care of dogs. Trouble, my springer spaniel, performed a few tricks for the students. I also told them a little about the interesting beaver and showed them a beaver skull.—District Game Protector E. D. Simpson, Union City.

Any Outdoor Tips?

GREENE COUNTY—In writing a weekly column for the local newspaper, I find that I get most comment from articles that let readers in on outdoor activities. They like to learn why animals act in certain ways, or why fishing is better after a spring shower. Maybe some GAME NEWS readers have secret tips they would like to share with me or my readers. If so, they should write directly to me, at R. D. 3, Waynesburg.—District Game Protector L. V. Haines.



Denizens of the Deep, Dark Woods

LACKAWANNA COUNTY—During May I received complaints involving the sightings of: one large brown cat that weighs approximately 100 pounds; one large black panther; one Canadian lynx; and several odd-looking creatures that couldn't be identified. All of these sightings reportedly have been made within 20 miles of the city of Scranton. All I need now is for Tarzan to show up at my headquarters and ask for a Deputy application.—District Game Protector T. C. Wylie, Moscow.

Cars . . .

BUTLER COUNTY—This district is not noted for its deer hunting or its primary deer range, but in 1967 282 deer were killed here on the highways. Now, I am positive that this district is anything but good beaver country, but sure enough, on May 28 a nice big beaver was killed by a vehicle at the intersection of Routes 422 and 68.—District Game Protector J. D. Swigart, Butler.

First Opportunity

ROSS LEFFLER SCHOOL OF CONSERVATION—It certainly was a privilege and a pleasure to see the enthusiasm and interest displayed by the Brockway Area sixth graders, during their recent visit to the Game Commission Training School, on their annual Conservation Day. I know I'm speaking for all the Student Officers when I say it was a very enjoyable experience to set up the various displays and exhibits and explain some facts about Pennsylvania wildlife to the 150 children attending. We are all looking forward to more rewarding moments like these during our careers with the Pennsylvania Game Commission.—Student Officer G. J. Zeidler.

Sorry—Out to Lunch

LUZERNE COUNTY — A Game Protector receives many unusual inquiries and requests and he soon learns that he must sometimes say he is unavailable. Such was the case recently when a lady called asking a favor. "I've got poison ivy growing up the side of my house," she said, "and since you're a Game Warden and immune to it, would you come over and remove it?" Sorry about that!—District Game Protector R. W. Nolf, Conyng-ham.

They Know a Good Thing, Too!

MONTOUR COUNTY — The day before the spring gobbler season, Sunday, May 5, I received a phone call from two Florida sportsmen who on the spur of the moment had left their native state on Friday and driven straight through to participate in our first spring season. Thanks to the courtesy of our local county treasurer, who made a special effort to supply them with nonresident licenses, they were able to participate in the hunt.—District Game Protector H. W. Bower, Danville.

Snappy Muskrat!

VENANGO COUNTY—Recently a muskrat decided to become a flower lover, or else got a good dose of spring fever. One managed to get inside of a greenhouse in this area, and decided the large bed of snapdragons might taste as good as they looked. Right up through the middle of the bed he went, chewing off the stems at ground level. He chewed off over 100 dozen stems before he was caught and removed. He had an expensive meal, inasmuch as snapdragons bring about \$4 per dozen wholesale on the market.—District Game Protector L. E. Yocum, Oil City.



Temporary Quarters

BUTLER-LAWRENCE COUNTIES—During May, I received a telephone call from a lady living near Slippery Rock Creek, saying there was a female raccoon with a family of young in the ceiling of her bedroom. She said they made awful noises, especially at night. She also said it was almost impossible to get at them as the female had come down a blind chimney to the ceiling of the bedroom. I sympathized with the lady and suggested that she tolerate them a little longer until the young were old enough to follow the mother out of their established quarters.—Land Manager W. E. Portzline.

Feminine Intuition?

LACKAWANNA COUNTY — Recently a black bear wandered into the borough of Dalton and was treed by a barking dog. A large crowd soon gathered and after some time the bear became weary of the proceedings and left the tree to amble off into the woods. I arrived at the scene shortly after the bear had made his departure and questioned a young woman who had been present. When I asked her how large the bear was, she replied that he was about three years old. When I pressed her for a reply on the size of the animal, she stated, "How should I know, I've never seen a bear before!"—District Game Protector J. L. Altmiller, Clarks Summit.



Adding Insult to Injury

CRAWFORD COUNTY — While working on a beaver damage complaint, I was having some trouble with a trap-shy beaver. I finally opened a small hole in the dam to see if he would plug it that evening. The next morning I went to check the dam and found the hole was plugged — and among the grass and mud was an old beaver trap, all rusted with the chain missing. It obviously had been placed in the dam for at least a couple of years.—District Game Protector J. R. Miller, Meadville.

Where There's a Will . . .

SCHUYLKILL COUNTY—On May 15, I received a call from a family in Tower City about some wild ducks which had just hatched. The mother was attempting to lead them to the swamp south of town. To get there, they had to cross Grand Avenue, the main street. When I arrived the ducks, a female mallard and 10 young, were in the backyard. I asked the people if they had a cardboard box and a fishing net, and their young lad produced a small crabbing net and a new garbage can. I told him to try to net the old duck first and he made one swipe with the net and had her. I put her in the can but, having no lid, had to hold her in as she wanted no part of that place without her young. The boy made a second pass with the net and had all 10 young in the net. I felt pretty good, as things were going better than anticipated. Unfortunately, the mesh in the net was too big or the ducks were too small, and shortly we had only two ducklings in the net. You wouldn't believe how fast newly hatched ducks can travel! But we somehow managed to catch all of them and they were released in the swamp.—District Game Protector L. E. Bittner, Tremont.

Terrific Time With Turkeys

FOREST COUNTY — The first spring gobbler season was a big success in this area, with a number of sportsmen taking advantage of the nice weather to combine hunting with fishing and camping. This is the first time many hunters knew the game was there—the constant gobbling on all the hills proved it. One group of hunters told me of hearing 11 different toms in one morning. (Those same hunters, hunting together, did not get one either!) Everyone I talked to in passing out survey cards really enjoyed this hunt.—District Game Protector D. W. Gross, Marienville.

Turned Off

MONTGOMERY COUNTY — This incident was relayed to me by Fish Warden Rotchford: It seems he was checking fishermen along Unami Creek near Sumneytown one day, when all of a sudden this "hippie" came running down through the woods to him. He immediately asked Officer Ratchford whether he enforced the Pollution Laws. To this, Rotchford replied, "Yes." The stranger then asked if he enforced the Air Pollution Laws, and at this point Warden Rotchford questioned him further. It seems that two fellows had been in the area minutes earlier, hunting crows with an electronic call. The hippie claimed this noise was polluting the air and should be stopped. Needless to say, Officer Rotchford immediately "tuned him out."—District Game Protector R. G. Clouser, Lansdale.

Deadly Dogs

MIFFLIN COUNTY — Just how deadly a pack of free-running dogs can be was well demonstrated to me recently. I heard the dogs run down and kill a game animal. I grabbed a 30-caliber rifle and made my way through the wooded area in the general direction of the kill. I couldn't see or hear the dogs. I was within 30 yards of a thick stand of pines, when charging out of the trees came three large dogs, their teeth bared, their hair standing straight up. I could see their intentions, and it was my turn to have my hair stand straight up. I quickly squeezed off a shot, killing the closest dog. Four shots later I had killed the other two. All three dogs were within 15 yards of me when killed. I hate to think what might have happened if a child had disturbed this pack of mongrels instead of me.—District Game Protector J. D. Moyle, McVeytown.

Award for Mama Bear, Too?

JEFFERSON COUNTY — Accompanied by District Game Protector A. D. Fichtner and Mr. Durbin of the *Brockway Record*, I presented a Triple Trophy Award to George Pisarchick of Brockway. Mr. Pisarchick told us about two of his sons seeing a bear with five cubs near the Game Commission Training School. I also had a report about these bears from Deputy Swanson.—District Game Protector G. W. Miller, Sigel.



Anti-Litter Corps

BEAVER, GREENE AND WASHINGTON COUNTIES—At 6:30 a.m. two woodchucks were sitting on their haunches on a Tastee-Freez parking lot along Route 30, chomping up the remains of the goodies that the patrons threw away.—Land Manager D. W. Heacox, Washington.

Nature's Way

"The rains that nourish the optimist's flowers make the pessimist's weeds grow, and the drought that does what the pessimist predicted for the flowers does what the optimist hoped for the weeds" — author unknown, but it proves that in this world you eventually get just what you are looking for. — Land Manager J. A. Booth, White Haven.



Probably Broke a Tooth, Too

LEHIGH COUNTY — Recently, Deputy Harry Gardner has had some trouble with bears at his mountain cabin. When Hap arrived at his cabin for the weekend, he found that one of his lawn ornaments, a 75-lb. concrete goose, had been knocked about ten feet from its normal resting place and that the neck was also broken off. Perhaps Mother Bear thought she had some easy pickings with the unsuspecting goose, and much to her surprise found out that the concrete was not very tasty after all.—District Game Protector J. R. Fagan, Allentown.

Important Reminder

BUTLER COUNTY — With woodchuck hunting in full swing and many hunters enjoying their favorite off-season sport, a reminder is in order to always wear some bright-colored clothes, especially headgear, and to check and double check your target before firing. Our goal should always be to eliminate all hunting accidents. Furthermore, with the ever-increasing pressure of restrictive gun legislation hanging over our heads, it is in our own best interests that we protect our sport by avoiding any possibility of a hunting mishap.—District Game Protector W. N. Weston, Boyers.

Curiosity Pays

BEDFORD COUNTY—I recently had the opportunity to make use of a fire extinguisher that I have been carrying in my car for a good many years. I saw smoke coming from a farmhouse near Woodbury. At first I thought someone was having a cook-out, but the more I looked at the smoke, the more I thought I had better investigate. After talking to some children playing in the front yard, I was almost convinced there was no cause for alarm, but being the inquisitive type, I had to check for myself. Sure enough, flames were going up one outside wall of the house. I ran for my extinguisher and told the children to tell their parents the house was on fire. By the time the firemen arrived, we had the fire under control. Martinsburg Fire Company refilled my dry chemical extinguisher and thanked my "curiosity." A fire extinguisher really comes in handy in an emergency such as this, and I was glad I had one with me.—Land Manager D. L. Stitt, New Enterprise.

Apple Polishers

HUNTINGDON COUNTY — This morning when I opened the Division Office two yearling buck deer were eating on the front lawn. Their antlers were about four inches long.—Land Manager G. H. Burdick, Huntingdon.

There's a Way . . .

BRADFORD COUNTY—I heard of an unusual way to use a drive-in car wash recently. It seems this lady's pet pooch got too close to a skunk and the result was one smelly dog. A friend told her if she washed the dog with a combination of vinegar and tomato juice her problem would be solved. She did so—and cleaned up the resultant mess at the local car wash.—District Game Protector A. D. Rockwell, Sayre.



CONSERVATION NEWS



Hunting Seasons, Bag Limits Set By Game Commission

CONTINUED control over Pennsylvania's large deer herd is emphasized in official 1968-69 hunting seasons established on June 4 by the Pennsylvania Game Commission.

A record number of antlerless deer licenses will be available this year. The total statewide allocation is 482,550, an increase of 37,150 over last year's 445,400, the previous high.

Even more important, the Game Commission has for the first time reserved the right to extend the antlerless deer season in the event the harvest of whitetails is inadequate during the regular two-day statewide antlerless season December 16-17.

In 1966 and 1967 the Commission enacted a clause providing for extension of the antlerless season in case inclement weather produced a lower-than desired harvest. Good weather prevailed and there was no extension two years ago, but bad weather conditions led to a one-day extension in 1967.

In case of inadequate harvest in 1968, the Commission may schedule additional antlerless deer hunting, either in designated counties or statewide, on December 20 and/or 21.

More liberal seasons also were established for small game hunters. Grouse and squirrel enthusiasts will

TROPHY DEER, SUCH AS THIS 10-point taken by Nelson Rudy, Jr., of Hanlin Station, are an important part of Pennsylvania's game animals.



have nine and one-half weeks of open season for their targets, while rabbit hunters can tramp after bunnies for seven and one-half weeks.

Five weeks have been set aside for ring-necked pheasant and quail hunting, and turkey hunters will have a three-week statewide season this fall. The fall turkey season will last for four weeks in the northcentral part of the state.

A spring gobbler season, held in May for the first time on an experimental basis, proved so successful that it will be repeated and expanded in 1969. Instead of a six-day season, next year the spring gobbler season will open on a Saturday and end on a Saturday.

Basically, bag limits on all species for the coming seasons will be the

same as last year. One change is the camp limit on black bears. Parties of five or more hunters will be permitted to take only two bruins this year, one less than in 1967. Another change is in the limit on beavers. Three counties, Luzerne, Susquehanna and Wayne, will have a season limit of five; other counties have a season limit of three. Last year only Susquehanna and Wayne had season limits of five beavers.

Improved water levels and an increase in the muskrat population have made it possible to increase the number of days available for muskrat trapping. Mink and muskrat season will open November 23 and close January 12, while beaver and muskrat trapping will be permitted from February 8 until March 9.

Game Commission Okays Land Exchange

THE Pennsylvania Game Commission has approved an exchange of lands to serve the best interests of the general public. The exchange will accommodate Pennsylvania Power and Light Company's proposed Stony Creek pump-storage generating project designed to help meet peak demands for electrical power.

After intensive investigation of sites throughout the region, the location on State Game Lands 211 in Clarks Valley, Dauphin County, was determined to be the only suitable site. The exchange will provide several thousand acres for public hunting that unquestionably would have been lost to sportsmen.

Under the plan, PP&L will deed to the Game Commission about 5000 acres north of and adjacent to State Game Lands 211. In return, the utility will receive about 1700 acres of Game Lands 211. After construction is completed, only about 500 of the 1700 acres will be closed to sportsmen.

In addition to the exchange of land, the Game Commission will receive \$5000 per year when the plant becomes operational and continuing for the life of the project.

If the project is ever discontinued, land being given up by the Game Commission will be returned to the Commission. The 5000 acres to be deeded to the Commission will be incorporated into Game Lands 211 and remain in Commission ownership, regardless of the future of the hydroelectric project.

Two reservoirs and a generating station will be built by the utility. A large, lower-level reservoir will be located on Stony Creek, and a smaller reservoir will be constructed in a high valley at the junction of Sharp and Stony Mountains. A more stable flow of water in Stony Creek will result through creation of the lower reservoir, while about six miles of Clarks Creek will become the property of the Game Commission.

Pennsylvania Seasons and Bag Limits 1968-1969

The Pennsylvania Game Commission, in Harrisburg on June 4, 1968, established the following seasons and bag limits for resident game and furbearers for the 1968-1969 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 26 will be 9:00 a.m., DST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers from one-half hour before sunrise until 10:00 a.m., DST. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 12	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Oct. 12	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
1	1	Wild Turkey—Counties, and parts of, listed below*	Oct. 26	Nov. 23
		—Counties, and parts of, not listed below	Oct. 26	Nov. 16
		—Spring Gobbler Season (bearded birds only)	May 3	May 10, 1969
4	20	Rabbits, Cottontail (not more than 20 in combined seasons)	Oct. 26	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
2	8	Ring-necked Pheasants, males only	Oct. 26	Nov. 30
4	20	Bobwhite Quail	Oct. 26	Nov. 30
2	6	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 4, 1969
Unlimited		Raccoons (hunting or trapping)	No close season	
Unlimited		Woodchucks (Groundhogs)	No close season	
Unlimited		Grackles	No close season	
Unlimited		Squirrels, Red	All months except	
			Oct. 1-11, incl.	

BIG GAME

1	1	Bear, over one year old, by individual	Nov. 25	Nov. 30
2	2	Bears, over one year old, by hunting party of 5 or more ..	Nov. 25	Nov. 30
		Deer, Archery Season, any deer—Statewide	Sep. 28	Oct. 25 AND
			Dec. 26	Jan. 11, 1969
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Dec. 2	Dec. 14
1	1	Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below**	Dec. 2	Dec. 14
		Deer, Antlerless—Statewide	Dec. 16 & 17 ONLY	
		—Counties, and parts of, listed below*** ..	Dec. 16	Dec. 21

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 23	Jan. 12, 1969
Unlimited		Muskrats (traps only)	Nov. 23	Jan. 12, 1969
			AND	
5	5	Beavers (traps only)—Counties of Luzerne, Susquehanna and Wayne	Feb. 8	Mar. 9, 1969
3	3	Beavers (traps only)—Remainder of State	Feb. 8	Mar. 9, 1969

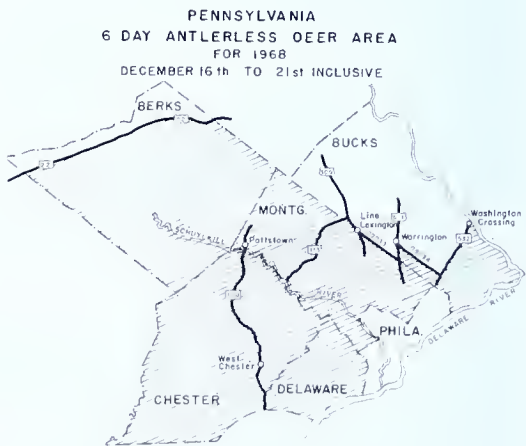
NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Chukar Partridges, Sharp-tailed Grouse.

SPECIAL REGULATIONS

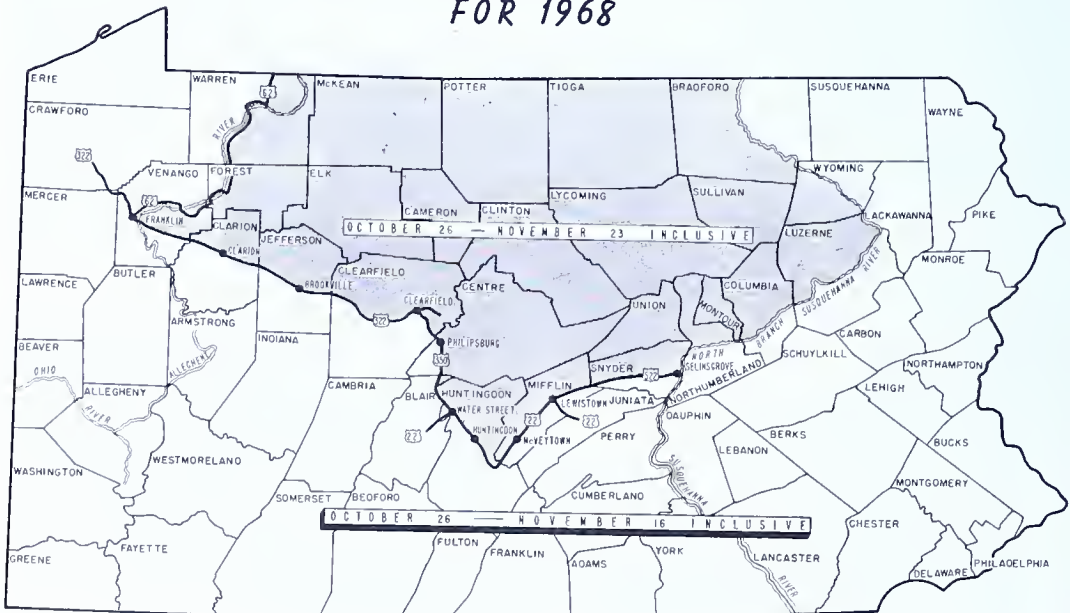
* *Wild Turkey Season*—Oct. 26 to Nov. 23 in the Counties of Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Tioga, Union, and in those parts of Forest and Warren Counties east of Route 62, and in that part of Venango County south and east of the Allegheny River and north and east of Route 322, and in those parts of Clarion, Clearfield and Jefferson Counties north of Route 322, that part of Centre County east of Route 322 north of Philipsburg and east of Route 350 south of Philipsburg, that part of Blair County east of Route 350, that part of Huntingdon County east of Route 350 north of Water Street and north of Route 22 east of Water Street, that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and that part of Snyder County north of Route 522, and those parts of Bradford, Columbia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

**** Special Regulations Area**—Only buckshot and bow and arrow may be used for taking deer. The use or possession of single projectile ammunition (except arrows) or the use or possession of rifles or handguns discharging a single projectile while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at the Washington Crossing on the Delaware River, west on Route 532 to Legislative Route 09034 (Bristol Road), north on Legislative Route 09034 to Route 611 (Easton Road) at Warrington, south on Route 611 to County Line Road, Legislative Route 09033, north on County Line Road to Route 309 at Line Lexington and north on Route 309 to its junction with Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100, south of Pottstown, and south on Route 100 to the Pennsylvania line.

***** Antlerless Deer Season**—Dec. 16 to Dec. 21 in the Counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and that part of Bucks County within the Special Regulations (Buckshot) Area.



PENNSYLVANIA WILD TURKEY SEASONS FOR 1968



Game Commission Declares Two-Day Antlerless Deer Season—December 16 and 17

The Pennsylvania Game Commission, by resolution adopted at its meeting on June 4 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. Applications for antlerless deer licenses are available wherever hunting licenses are sold. Antlerless licenses are available from County Treasurers *ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.*

Total 1968 statewide allocation of antlerless deer licenses is 482,550, which is 37,150 more than last year, the previous high.

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals with no visible antlers, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from December 16-21. In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

County antlerless license allocations are as follows:

ANTLERLESS DEER LICENSE ALLOCATIONS

<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>	<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>
Adams	Gettysburg	3,300	Lackawanna	Scranton	6,550
Allegheny	Pittsburgh	3,850	Lancaster	Lancaster	2,650
Armstrong	Kittanning	5,700	Lawrence	New Castle	3,500
Beaver	Beaver	3,050	Lebanon	Lebanon	2,250
Bedford	Bedford	8,250	Lehigh	Allentown	1,750
Berks	Reading	4,500	Luzerne	Wilkes-Barre	10,100
Blair	Hollidaysburg	7,500	Lycoming	Williamsport	15,450
Bradford	Towanda	9,900	McKean	Smethport	17,450
Bucks	Doylestown	2,500	Mercer	Mercer	4,500
Butler	Butler	5,950	Mifflin	Lewistown	6,150
Cambria	Ebensburg	8,050	Monroe	Stroudsburg	8,750
Cameron	Emporium	8,800	Montgomery	Norristown	2,500
Carbon	Jim Thorpe	7,550	Montour	Danville	1,600
Centre	Bellefonte	17,650	Northampton	Easton	2,650
Chester	West Chester	4,000	Northumberland	Sunbury	3,900
Clarion	Clarion	6,400	Perry	New Bloomfield	6,600
Clearfield	Clearfield	18,850	Philadelphia	Philadelphia	
Clinton	Lock Haven	17,800	Pike	Milford	13,500
Columbia	Bloomsburg	3,500	Potter	Coudersport	21,300
Crawford	Meadville	6,900	Schuylkill	Pottsville	10,750
Cumberland	Carlisle	4,200	Snyder	Middleburg	2,550
Dauphin	Harrisburg	3,850	Somerset	Somerset	8,100
Delaware	Media	500	Sullivan	Laporte	6,400
Elk	Ridgway	15,450	Susquehanna	Montrose	5,950
Erie	Erie	7,050	Tioga	Wellsboro	15,600
Fayette	Uniontown	6,550	Union	Lewisburg	4,550
Forest	Tionesta	10,200	Venango	Franklin	7,850
Franklin	Chambersburg	4,100	Warren	Warren	4,350
Fulton	McConnellsburg	3,750	Washington	Washington	9,250
Greene	Waynesburg	3,100	Wayne	Honesdale	8,250
Huntingdon	Huntingdon	11,450	Westmoreland	Greensburg	5,400
Indiana	Indiana	8,100	Wyoming	Tunkhannock	4,500
Jefferson	Brookville	7,650	York	York	13,250
Juniata	Mifflintown	4,700		TOTAL	482,550

Bad Weather or Inadequate Harvest Extension—In case of inclement weather or inadequate harvest during the regularly scheduled antlerless deer season, the Commission may schedule additional days on December 20 and/or 21 and counties in which antlerless deer may be taken. Announcements will be made via all news media.

Game Harvest Increasing in State

HOW MANY PIECES of wildlife are harvested by hunters in Pennsylvania in a year? One million? Three million? Six?

Game Commission studies show that a minimum of 8.1 million pieces of game were taken in the state last year, according to Research Division Chief Harvey A. Roberts. Even more important, Roberts says, are the trends in total harvest and the harvests of individual species over a period of several years. The total harvest trend in the past three years has been upward.

There has been a significant increase in the harvests of pheasants and squirrels; there has not been a significant decrease in rabbit harvests as some might be led to believe; and there is statistical evidence of no change in the harvests of grouse, turkeys, quail and woodcock.

Here are official 1967 game harvests: deer, 144,415; bears, 568; rabbits, 2,870,000; snowshoe rabbits, 6000; squirrels, 2,680,000; raccoons, 137,000; wild turkeys, 23,000; ruffed grouse, 470,000; ring-necked pheasants, 1,015,000; quail, 23,000; woodcock, 75,000; rails, gallinules and coots, 12,000; wild waterfowl, 81,500; woodchucks, 345,000; doves, 259,000.

The big game figures are based on individual reports filed by hunters; the figures on raccoons, rails, gallinules, coots, waterfowl, woodchucks and doves are based on estimates by field officers of the Game Commission; and the figures on rabbits, squirrels, turkeys, grouse, pheasants, woodcock, quail and snowshoe rabbits are calculated minimum harvests, according to Roberts.

The Game Commission's method of determining small game harvest figures received a shot in the arm starting in the 1965 season when a program was inaugurated whereby a cross section of the hunting public was surveyed concerning game harvested and areas hunted.

This information is projected to arrive at estimated totals for the state for the year. The possible extent of error, determined statistically, is then subtracted from the estimated harvest total to arrive at a calculated minimum harvest.

This continuing technique is comparable to those used by industry and business and provides economically sound information which is presently more reliable than data gained through other available means.

Turkey Calling Contest

The fourth annual Pennsylvania State Turkey Calling Contest will be held August 24 at 1:30 p.m., EDT, at the Franklin County Fair. Sponsored by the Franklin County Federated Sportsmen, this contest will be extremely valuable to Pennsylvania sportsmen who have learned what a challenge turkey hunting can be. Here, they can see and hear some of the country's top callers in action, and doubtless pick up pointers which will be useful during the hunting season. Everyone is eligible to compete (except a caller who has won two years in succession; such winners are again eligible after a one-year waiting period), and there is no entry fee. Scoring is based on four calls—the pert, yelp, whistle and gobble. Judges are Gene Nelson, chairman; Roger Latham, authority on wild turkeys; Vern Douglas and Bill Britton, widely experienced turkey hunters. The fairground is located one mile west of Chambersburg on Route 995, just south of Route 30.



Court Freeburn

Court Freeburn Retires

After thirty-four years of service, Court Freeburn, Chief, Division of Land Management, retired at the end of June.

Mr. Freeburn received a B.S. degree in forestry from Pennsylvania State University in 1926. He spent six years with the Reading Railroad Company as a transitman. He came to the Commission on June 7, 1932, as a draftsman and left three years later to work for the federal government. He returned two years later as a Game Land Technician and five years later was placed in charge of land management work, an assignment he held for 26 years.

Retirement to Court means travel and fishing, so he plans no permanent abode at this time.

Over 4000 Acres Bought

In continuing its efforts to provide public hunting grounds the Game Commission has approved the purchase of 4295 acres of land at a total cost of \$201,000. Monies for the purchase will come from the Game Fund.

Tracts to be purchased are located in Allegheny, Bedford, Crawford, Dauphin, Franklin, Perry and Somerset Counties. The Commission has been fortunate in contracting for purchase of tracts of considerable acreage, evidenced by three of these purchases embracing 866, 1107 and 1600 acres.

In other action by the Game Commission, licenses of 121 hunters were revoked for violations of the Game Law, and hunting license privileges were restored to six persons.

National Plowing Contest

Conservation of Pennsylvania's natural resources is the theme for the Conservation Exposition of the National Plowing Contest, to be held at Hershey on August 27, 28, 29. More than a dozen federal, state and local agencies will conduct demonstrations on wildlife food and cover plots, fish pond management, irrigation methods, roadside stabilization, and soil and water conservation. Bus tours will move the public over the 2300 acres involved. Highlights of the program will include state and national plowing contests, and there will be several acres of exhibits. Sponsors of the field days include Pennsylvania State University, Pennsylvania Department of Agriculture, Hershey Estates, Pennsylvania Grassland Council and the U. S. Soil Conservation Service.

Problem: Pollution

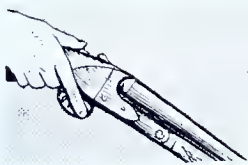
Physically, air pollution is much like water pollution. The sources are much the same. Both carry broad environmental implications. Both can be prevented.—*Izaak Walton League of America*



INTERNATIONAL BEAGLE TRIAL was held at Imperial, Allegheny County, in May. Winners in the 13-inch futurity, above, were: George Nixon with Pearson Creek Image, first; Dick Wyatt with G&R Little Linda; Gene Helms with Valley City Witchcraft; Jim Burk with Sargents Blue Girl; Art Fleming with Beesom's Belinda. Standing: Bob Zidich, judge; Ralph Henry, field marshal; and Les Cammauf, judge. Below, 15-inch futurity winners were: Paul Verhines with Verhines' Adam, first; Gerald Bowles with Popular Hill Bobby; Curt Blinsinger with Pearson Creek Reddy; C. M. Jordan with Stone River Butch; Steve Steinmetz with Pearson Creek Moe. Standing: Millie Verhines; Henry Swieeh, field marshal; "Bubba" Estes and Roland Scherer, judges; Manny Rahner, field marshal.

Photo from HOUNDS AND HUNTING





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



DIMENSION ILLUSTRATION is used by Dr. Frank Anthony during lecture to class at Ross Leffler School of Conservation.

What Do You See?

“WHAT do you see?” That’s the question asked by Dr. Frank Anthony, Associate Professor, Pennsylvania State University, during his program, “Developing Proper Student Attitudes.” The program was recently presented to the thirteenth class of Game Protector Trainees at the Ross Leffler School of Conservation in Brockway.

By calling attention to what a person sees, or thinks he sees, through use of “dimension” illustrations—optical illusion-type posters on which different subjects appear and disappear as eye focus varies slightly—Dr. Anthony provides some observations on just how flexible one’s reaction is when

identifying various items. The necessity of one important act was made obvious by this identification problem—creating the habit of taking a second look.

As a part of developing proper student attitudes, the attitude inventories on firearms and bow handling were given following the Hunter Safety slides. The importance of creating discussion in developing and changing attitudes was determined by this method of teaching.

Dr. Anthony’s interesting three-hour presentation highlighted a 15-hour Hunter Safety course given to the student officer class as part of their Game Commission training.

Hunter Safety—Community Project



ENTHUSIASTIC! That one word describes the 42 boys and girls who completed a combination NRA Hunter Safety and 4-H Wildlife Conservation school held recently in Montour County.

It all started when a scoutmaster asked for some conservation training for a few of the boys in his troop.

After discussion, it was decided to

look into the possibility of a combination Hunter Safety School and Conservation Project open to all boys and girls in the community.

A meeting of District Game Protector Howard W. Bower, Soil Conservationist Forest Leer, and NRA Hunter Safety Instructor Lee Cooke resulted in a program consisting of 12 work meetings, including three field trips. An interested landowner, James H. Trump, invited the group to use his farm for the field work.

To generate interest at the first meeting, two of the instructors and the Game Protector presented a skit which included just about every wrong way of handling a firearm. This was followed by a group discussion on the mistakes shown in the skit. This sparked an interest which never faltered for the remainder of the course.

Topics covered included: Safe Gun Handling; Gun Nomenclature and Types of Firearms; The Game Laws on Safety; Land Use for Wildlife; Hunter-Landowner Relations; Archery Safety; Know Your Own Gun, where each student demonstrated his knowledge of his own firearm and how to handle it; Food and Cover for Wildlife; Shooting the 22 Rifle, and Shooting the Shotgun. Field trips included studying methods of improving wildlife habitat, actual border cuttings, planting trees and shrubs according to plan, and observing wildlife feeding areas and making plaster casts of animal tracks.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



Even while the technocrats continue their compulsive drive to cover the continent with concrete, an instinctive urge in man compels him to renew and strengthen his ties with nature, with the earth itself. This is best done by camping, and for this reason we begin, in this issue, a regular series of articles on the subject. We're sure you'll find them interesting and informative . . .

Which Camper for You?

By Les Rountree

STATISTICIANS say that outdoor recreation is our second largest industry. I say it's first, as of right now. Family camping has made it so. Because of the newness of the sport (to many people, that is), positive figures are hard to nail down. I'm not going to bore you with a lot of numbers, but here's one statistic that impressed me. During 1967, one pickup truck manufacturer produced 76,000 light chassis for the express purpose of being installed with camper bodies. That's only one year, one manufacturer and just one type of camping unit. Start adding up the pickup campers, the pop-up tent trailers, the travel trailers and traditional tents that are already on the road, and then project the figures that we know will be added on in the years to come. What we're now talking about is 20,-

000,000 people, and I'm sure that's on the conservative side.

A large percentage of hunters and fishermen are campers, so there is some overlapping when we consider who does what. There is a huge slice of the camping population, however, that neither fishes nor hunts. These people just enjoy being part of the landscape because they like being out of doors. It follows that a lot of the non-hunting campers, because they are in an outdoor environment, will come in contact with people who do hunt. Ideas will be exchanged around campground fires and. . . . Get the idea, Mr. Outdoorsman? This move towards camping as a recreation form can help conservation in all its ramifications. The more people who care about *your* outdoors, the better off we'll be. We'll talk more about the



TRAVEL TRAILER is great for long hauls and one-night stops. Set-up time? One second.

gregarious side of camping in another issue, but this time we're supposed to talk about selection of the basic unit. Let's do it.

The most primitive of the camping living quarters, and the one from which all others stem, is the tent. From the portable, but uncomfortable, pup tent to the large multi-roomed wall tent, the buyer today can find any size and style to suit his fancy. Some are easy to put up and take down, others require a lot of hands and considerable under-the-breath mumbling. As a beginner, should you or your family have a tent for your first go at camping? If economy is the watchword, the answer is probably yes. A tent is really the most inexpensive way to head for the hills. With nothing more than a \$50 tent and another \$50 worth of camp gear a family of four can actually go camping. Of course, you'll wish you had some refinements before you return—but it can be done.

For backpackers, hunters and other campers who must travel light because they're on foot, the tent is the obvious answer. Here one of the light nylon mountain tents is in order. For the large family, one of the modern tents does not take up too much room in a station wagon. With many hands to help with the putting up and taking

down this job becomes fun. There is definitely a rugged frontier flavor to tent dwelling. Many families, after trying other kinds of outside homes, wouldn't have anything but a tent.

But the unadorned tent is not for everyone. The problems of wind, water and uninvited wildlife affect the tenter more than the trailer or camp dweller. If you enjoy, or don't mind, doing more things for yourself, tent camping may be for you. But this is important—if you do decide to rent or buy a tent, practice setting it up and taking it down at least once before you start out for real. This shake-down session can save a lot of agony on that first night.

Travel Trailers

The real hairy-chested type of camper shivers and quakes when mention is made of the travel-trailer. He loudly proclaims that it just isn't camping. Bless him for his opinion (and he's entitled to it), but the "hard" trailer is a part of today's camping picture and we can't ignore it. In fact, the comforts available with these units are the chief reason that Mom is willing to come along. Most women don't enjoy washing dishes in the creek with one hand while brushing mosquitoes out of their eyes with the other. The travel trailer puts some wives into the outdoors that just wouldn't be there under other circumstances. And let's face it, Dad, you might not be there either if she didn't enjoy it.

The hard trailer is more expensive, but with reasonable care has a longer life than some other types of camping units. There are models on the market that start at about \$500. They can't, however, be called family camp-



ers. They are too small for more than two people and, in some cases, they are too small for that. Especially if you are forced to stay inside to beat a rainy spell. Cabin fever can be dangerous on a camping trip. If there are more than two of you, don't buy one of the mini-campers.

For the large family, travel trailers come in all sizes up to ones that really shouldn't be pulled with a passenger car on crowded highways. In my opinion, and I have to say it, when a person wheels out of his driveway pulling a trailer that's ten feet longer than his car, he's really not going camping. He's taking a house with him.

For the family or couple that wants an extra bit of luxury and doesn't mind pulling the weight, the hard trailer may be the right choice. Look them all over carefully. The extras and accessories available make the combinations almost limitless. You are restricted only by your imagination and your pocketbook. Oh yes, the one really big advantage in a travel trailer is that on those rainy evenings when the tenters and pop-up trailer owners are out there slogging around in the mud trying to beat the darkness you can smile. All you have to do is turn off the ignition key and climb into the trailer.

Pop-up Trailers

As a beginner's choice, the pop-up camper has a lot going for it. When knocked down, the small trailer unit is easy to pull, easy to see over and can be moved around by hand if you're on the level. I added those last three words, "on the level," because my wife insisted on it. Three years ago while traveling in Canada, we pulled up at a public campground just as darkness became a fact. This was enough poor planning, but as luck would have it, after setting up our pop-up, we discovered that the site we had selected was slightly uneven. No problem, I thought, I'd just back the trailer up a bit by hand until the ter-

rain leveled out. I started to do this when suddenly the trailer started to roll by itself. Only by digging my heels in the dirt, cowboy fashion, was I able to stop it. A flashlight inspection proved that the trailer was about ten inches away from plunging over a bank that dropped straight down for about eighty feet into the St. Lawrence River!



CAMPER ON ¾-ton pickup is fine choice for family camping. Many conveniences make it popular with wife and kids.

As camping units are priced today, the pop-up trailers are in the middle bracket. They cost more than tents and less than hard trailers and pickup campers. You can purchase a comfortable outfit for \$500 and a really deluxe job for \$1000. Either will sleep four adults and when knocked down will haul most of their gear as well. Storage space will be cut down, if you want many of the sophisticated extras that are available for these units. Propane stoves, a sink with water storage tank, table console or icebox unit can be ordered.

This brings us to the acceptability of the pop-up camper to all kinds of users. If you like the thought of sleeping under canvas and being able to hear and feel the outdoors more acutely, but at the same time want to be up off the earth and enjoy some of

the more plush conveniences, the pop-up is for you. One warning. As with the tent, be sure to test yourself with a "milk-run" before hitting the road. Every tent trailer has its peculiarities. Better you learn them in your backyard.

Pickup Campers

For those who like the all-in-one idea, the pickup truck and camper body combination is the answer. You've got to have a truck to enjoy this kind of camping, which makes your initial investment a steep one. Rounded out over the years the cost really isn't too bad, especially if you can use a truck as a second car. Some wives may balk at the thought of driving a truck to the beauty parlor, but the high class appointments of the one-half and three-quarter ton trucks today are a far cry from the Plain Jane utility vehicles of a few years back. Foam rubber seats, automatic transmissions, center armrests and improved front-end suspensions make for very comfortable driving and riding. It took a while for some truck makers to catch on to this specialized market. Now, most offer models designed especially for a camper body.

Out in the southwestern part of the U. S. where this pickup camper idea

HOMEMADE SHELTER—forerunner of commercial pickup campers and still a good rig for hunters and outdoorsmen.



really began, homemade units were quite common for a number of years (you still see plenty of them out there). A few expert builders started making their design for others. Then the truck camper found its way east of the Mississippi. Today, dozens of brand name units are being hauled around the country. From its Arizona beginnings, which consisted of nothing more than a wooden box, the truck camper has evolved into a complete home on wheels, with kitchen, shower and electric lights.

As with most kinds of camping units the extras you want are limited only by your willingness to pay. It's possible to have every home convenience available on your pickup camper. Campers will sleep two to six adults in reasonable comfort. You can have electric refrigerators, bottled gas range, hot and cold showers, inside toilet, built-in television and even, so help me, a piano! Pianos are not offered as optional items by manufacturers, but I did see one in a camper body. How the owner got it in there was a mystery. The big talking point for the pickup is its instant preparedness. It's ready to go right now. For the couple or family that likes to take off at a moment's notice on the weekend, the outfit is ideal. It can be permanently equipped with the basics needed for a short trip.

The Camping Van

To round out this look at basic camping units, we'll end with mention of the all-in-one van. When dollars are considered, this style camping device is the top drawer item. On the bottom end of the scale are the mini-camper buses available in three domestic varieties and one import. Prices on these start at about \$2400 and can climb rather sharply to about \$5500. These units are built around the typical panel truck chassis and can be most practical for two people—more with a tent side room attached when camp is set up. Stepping up in size there are the



POP-UP CAMPER with hard roof is ideal for four persons. Attached porch roof is a convenient extra.

really luxurious camper vans. These are available ready-to-go from some of our major auto manufacturers. Other van campers are built by smaller custom companies who purchase a chassis and drive train complete with engine and build their travel unit around it. Some of these are over twenty-five feet long and are just about the last word in comfort — as they should be, since a few of these rolling castles carry price tags of \$25,000 and up. If you can afford one—they are a great way to travel. Great advantage of the van is that of the travel trailer or the pickup unit. That is, they're ready to go at the flip of a switch and there is no setting up.

And so . . . you pay your money and you take your choice. What's right for you and your family or friends may not be just the ticket for somebody else. Tastes and requirements differ. If you don't have a camping unit of some kind and you're thinking about buying, the best advice that can be offered is to spend a lot of time looking and comparing. Visit the outdoor equipment shows and do some serious snooping. Be a tough shopper. The camping market is becoming more competitive each year and this works for the camper. The makers of camping gear want to please the buyer and a little bit of looking around will find just the outfit you're looking for.

Why Should It?

The horseshoe crab is a true living fossil. Crawling on the ocean floor 400 million years ago, it hasn't changed much in appearance.

The Release

By Keith C. Schuyler

Photos by the Author



FIG. 6—Bill Wise illustrates his limit of bow torque possible while still maintaining full draw—a must for accuracy.

NOW WE COME to the most important part of a shot with the bow—the release. “Starting the Shot,” in the April issue, and “The Draw,” in June, set the stage for the critical moment which determines how well the shot has been planned. Yet all this planning is of no avail if an improper release is used.

Once again, there is a world of difference between the target line and the big game hunting scene. In between is field course shooting, which embodies a bit of each but which leaves something to be desired for either. Ideally, an archer should learn his ABC’s on the target strip, try to retain as much skill as possible acquired on the more irregular terrain and shooting distances of the field course, and then he should be ready for anything when he draws down on game.

Note that this has been entitled, “The Release.” In effect, this is all that an archer ever does. He uses his mind and muscles to set the stage for a shot. Then all he does is to release the forces which he has amassed, simply by letting the string slide from his drawing fingers. Theoretically, assuming he has correctly brought into play the proper prerequisites for a shot, the arrow should perform perfectly—its ultimate destination the exact spot the archer has chosen for it.

Would that this were so!

The Aim

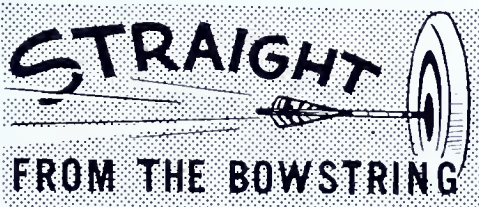
It might seem a little late to talk about aiming when every movement to the moment of release is a part of the aim. The position of the feet, the

body, the hands, the bow, the arrow—all are part of the effort to hold in a manner which will bring the desired result.

For the target archer, the sight shooter, this is a ritual which must be practiced literally thousands of times until it is second nature to do it just right. Almost without thinking, the archer finds himself lining up his sight with the exact center of the target. He has his precise spot pinpointed for him by a series of concentric circles. His sight has been pre-calibrated for the distance, he may have even allowed for a cross breeze, head wind or tail current. Nothing can go seriously wrong. Theoretically.

Actually, countless forces are at work to foul up the shot. Over concentration will frequently cause the archer to release before his sight is on the mark. Or he will let go before reaching full draw. He is too tense. Perhaps he finds himself wondering if his kid's cough is serious, or whether his car muffler is blown or the tail pipe is just pulled loose. He can't concentrate. His sight waves all over the target. He tries to release when the sight passes through the center. The end result is the same. He picks up score-shattering 5s and 3s and mutters bad things under his breath.

These are common faults. As a help, a clicker has been devised. It is fastened to the side of the sight window and indicates, by snapping over the point of the arrow, when proper draw has been reached. It isn't a sure cure, but it can eliminate one factor which interrupts aiming concentration. All else is mental conditioning, provided that the physical requirements have been met.



Now take these same circumstances to the mountainside where the bow hunter is drawing down on a deer. He has countless physical compensations to make just to take proper aim. And he must calculate the approximate distance to the target. He is torn between uncertainties as to whether the animal



FIG. 1—Buildup of dental tape provides an excellent means of establishing a nocking point for arrow on string.

is as close as it is going to get; whether it is presented in as good a position for the shot as is likely under the circumstances; whether he should actually do this thing! There is a certain awe in aiming at a game animal which can produce a fit of buck fever or a case of conscience. The hunter must consider all these factors.

Assuming that he has his mental gymnastics under control, the hunter must still calculate at what point he wishes his arrow to strike to do the proper job. Downhill, uphill, brush to reach over or duck under, moving animal, wet fletching, safe background! And there is an acre or so of trees, brush or field to distract his concentration from "the spot." For he must pick a spot if he hopes to make a clean kill. Probably the most surprising thing is that about three out of a hundred bow hunters actually bag a deer in Pennsylvania!



FIG. 2—Most hunters prefer to have the nocking point built up enough to hold the arrow's weight.

Nocking

The string nock might seem to have little to do with the release, but it is important. There are actually two factors that enter into the need for a proper nock. First, this determines where on the string you will set your arrow nock. The two must meet at exactly the same point on each shot if you expect consistent results. Consequently, as shown in Fig. 1, there is just enough room to accommodate the nock with no up or down play. This particular string nock is fashioned from dental tape, the most popular do-it-yourself material available. A slight hump is worked onto the string serving with the tape above and below a marked area, and the ends are whipped under to make a snug winding which can't unravel. Heat from the thumb and forefinger will soften the wax enough by brisk twirling to make it cohere. A match or a cigarette lighter will hurry the softening if it is applied briefly so as not to burn the string.

Second in importance is the diam-

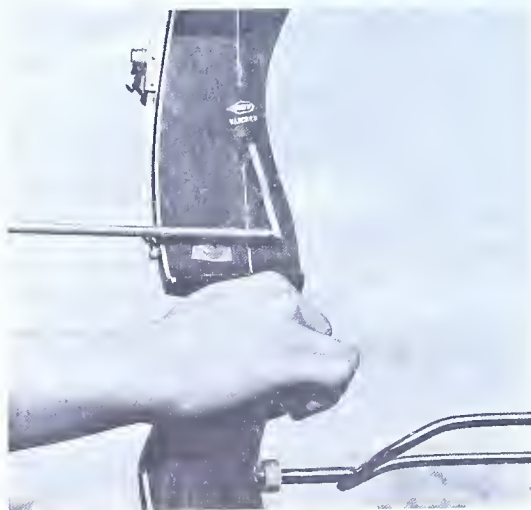
eter of the string nock. Most archers prefer to have it built up enough to barely support the weight of the arrow as shown in Fig. 2. This will be determined by the weight of the bow, which in turn determines the weight of the arrow. Hunters prefer a slightly tighter fit than target shooters, since keeping the arrow on the string under all field conditions is a consideration. There are commercial nocks available which are made from rubber or solid nylon. However, *diameter* of the nocking point can still be adjusted by building up the string serving between the nocking devices.

In total, it must be remembered at all times that, for accuracy, it is important that the back end of the arrow get away properly to drive the front end to its intended target. This includes, of course, bringing that drawing hand snugly against the anchor point—every time.

The Business End

The business end of the arrow must always be brought to exactly the same spot on the bow. And it must be held there for the release. Creeping is one of the most common faults. If the arrow does not take off at exactly the same point on the bow, it will not hit

FIG. 3—Clicker is about to snap off the head of this target arrow, indicating exact draw length.



consistently, no matter how coordinated all other factors might be.

The target archer can correct his faults a number of ways. He can hold his relatively light bow (or should be able to) for long moments while he brings into play all the elements of proper physical form and mental conditioning. If he still has trouble, he can install the mechanical clicker (see Fig. 3) which tells him exactly when he is at full draw.

His hunting counterpart has only one guide. He must pull his broadhead, or the stem of it, against the arrow rest or the back of the bow. See Fig. 4. This is his draw, and his arrows should be spined to produce the best results when released from this position on the bow. It makes no difference what position he might be in when a shot presents itself, he must be able to make a full draw if he expects to hit where he is aiming.

And So It Goes

Up to this point the arrow has remained on the bow. We started with the basic fundamentals of starting a shot on the target line, followed through with the draw, and now we are at the point of release. Some suggestions have overlapped to a degree because the bow and the arrow are inextricably welded into the physical and mechanical processes of getting an arrow ready for flight. But, the release is the pushbutton that sets it all in motion.

It must be smooth.

In that short statement is the bitter or the beautiful end of everything that goes into a shot. Whether it takes one a fraction of a second or several seconds to prepare mentally and physically, there should be a pause when all else is blotted out but the desire to *smoothly* release the string. It makes no difference whether the archer is comfortably balanced on a hardwood floor or if he is contorted into a pretzel shape. It makes no difference whether it is a gold spot that he has burned



FIG. 4—Bow hunter normally uses the back of bow as a guide to indicate when his arrow is at full draw.

into his brain, or a tiny patch of animal hair that telescopes into his vision. He may not even be conscious of releasing, if he has practiced properly, but he must be aware of the *need* to do it well. Unlike a camera that can be remotely tripped to guarantee that there will be no movement when the mechanism is set in motion, the archer himself must physically—directly—trip his shot.

So he opens his clenched fingers and the arrow-loaded string slips forward. His drawing hand dare not move, his bow arm must be still.

In Fig. 5, Barry Beck demonstrates the proper release. His bow tips to the weight of the stabilizer as he continues to hold it in approximate shooting position for the follow through. Even though the arrow is away, the follow through is an important part of the shot. It avoids a quick takedown which might become so mechanical that it can start before the arrow is properly away. And it gives the archer a picture and a feel of the shot so that he can repeat a good one or correct a poor one on the next try.

Barry's string hand flies straight back to indicate that his release *was*

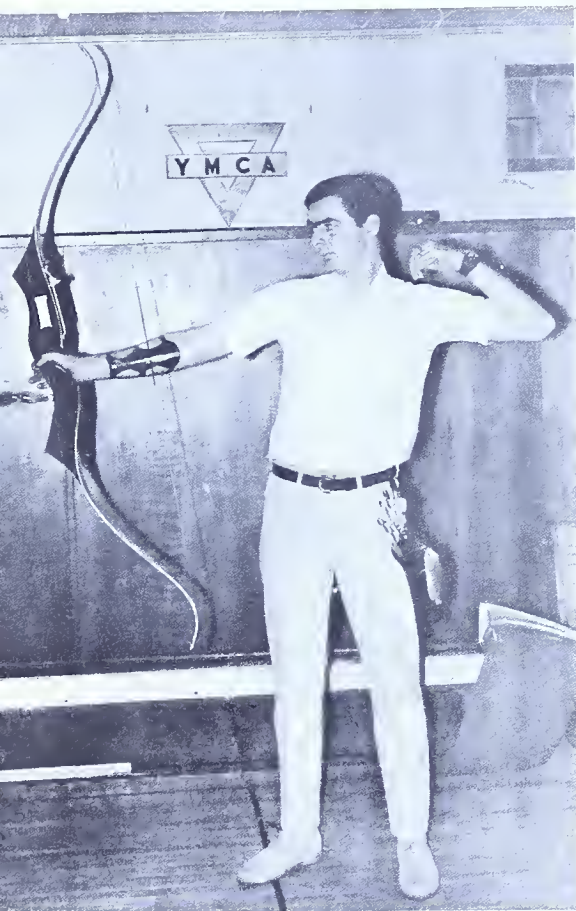


FIG. 5—Barry Beck shows excellent form in release and follow through—absolutely necessary to good shooting.

smooth. He permitted all the power in the bow to work for him.

In the woodland setup, Fig. 6, Bill Wise illustrates a proper draw even

though he has turned his body more than 180°. Although a hunter may plan his shot so that he will be in as good a position as possible, the game may not cooperate. The important thing is to ensure that, no matter what shooting position is required, the basic fundamentals of good form will not be ignored. If a full draw is not possible, it means that everything else is out of control. A good hit would be pure luck.

Problems a Challenge

By being conscious of the many factors outlined in this series of three attempts here to equate target shooting to big game hunting, an archer should be able to up his average. The mechanics which we have attempted to outline are relatively simple. Physical requirements are obvious, and related to the degree of individual ability. The mental mastery that is required is a personal thing, and only you can find the answers. But none of us would ever want any part of it to become too cut-and-dried.

We should welcome the problems as a challenge to our association with the bow and arrow, whether it is an attempt to cut the gold out of the 9-ring; to puncture the pimple on a field face, or to stand in primitive elation over a big game trophy.

Herein lies the fascination of archery.

Crowded Quarters

A tablespoon of fertile soil may contain more tiny plants and animals than there are people in the United States.

There Is a Difference

Rabbits (such as cottontails) are born in nests, and are blind, naked and helpless at birth. The hares (such as jackrabbits) are born well-furred, wide-eyed, in the open, and able to travel.



GUN WRITER LEWIS'S CHUCK RIFLES include 243 Winchester, 220 Swift on Mannlicher action, 222 Remington and 243 Sako.

How Far Is Long?

By Don Lewis

Photos by Helen Lewis

“WHEN MY OLD '92 cracked, that chuck never knew what hit it,” declared Slim Davenport. “I figger that was about as long a shot as I ever made with that rippin’ little 25-20.”

“Where’d you say you did that mile-long shootin’?” Ray Johns asked.

“Up on the Perkins homestead. Out in that back hayfield that’s about 450 yards long.”

“Did you shoot from the dead chestnut tree in the upper corner of the field?” I asked, as I peened tight the rear sight on Slim’s old Model 92 Winchester.

“That’s exactly where I shot from. When I saw the chuck, I thought it might be a bit too far for the 60-grain 25-20 bullet, but I couldn’t pass up

the chance on such a big chuck. I just held a couple of inches high and squeezed off the shot. Caught it dead center.”

“I’m still not certain where you fellows are talking about, but if it’s where I think you mean, Slim, that’s not a very long shot,” Johns said.

“It’s better than 350 yards! I didn’t step it off, but I know a little bit about distance. It’s a fer piece no matter who’s behind the trigger, and you’ll have to admit that that’s darned good shootin’.”

“Slim, I think you’re stretching it a little bit,” I said good naturedly. “For one thing, it’s not that far across that field. And if it was, your ripping 25-20 would have to be held two feet above the chuck’s head at 400 yards.”

"I'm of the same opinion," said Johns. "That early American frontier piece wouldn't throw a bullet 400 yards if you aimed at the moon."

"Aw, you're both full of sour grapes," Slim said angrily. "I've been shooting varmints for more than 30 years. I've killed chucks, crows and foxes at unbelievable distances."

"I agree, and I'm not going to believe the distance to that chuck you shot on the Perkins place either," taunted Ray.

"I don't give a hoot if either of you believe it, I killed that chuck clean across that hayfield. I still say it's more than 350 yards across it, and I call that long, understand? *Long!*"

When I got the sights aligned, I took a few shots out of the venerable 92 at my 50-yard target. To see what it would do at 100 yards, I fired a 6-shot group. With the V type sporting sight on the rear, I had difficulty in trying to see the 4-inch bullseye. I managed to hit it 4 times, but there was no semblance of a group. When I realized the trouble I had sighting at a 4-inch bullseye, I wondered how anyone would even attempt a shot at a chuck at 300 yards. I think Slim

THIS VARMINT shooter finds chuck rest aids efficiency of his M700 Remington 22-250 and Redfield 3-9X scope.



read my thoughts; he paid me and bid us all farewell.

"How far is long?" Johns asked me as Slim's car backed down my driveway.

"How far is it clean across a hayfield?" I tossed back.

"You're evading my question."

"You can't answer mine any more than I can answer yours. I do know that there isn't a place on the Perkins farm that offers a 350-yard shot. In fact, I've killed numerous chucks from the very tree he was talking about, and it takes just 203 steps to reach the farthest part of that field. I've stepped it off more than once."

"Why didn't you tell him that? That would have licked his story quicker than a flea can hide in a dog's back."

"I know, but I'd rather let him believe that he did shoot that far."

Proper Holdover?

Johns asked how far Slim would have had to hold above the chuck's head to connect at 350 yards or more. I dug through my loading manuals and found the answer. I remembered the 86-grain 25-20 bullet had a muzzle velocity of roughly 1400 fps, but was surprised to learn that dropping down to a 60-grain slug upped the velocity to over 2000 fps. I hadn't known that the 25-20 would throw a slug that fast. It probably explained why, back in the '30s, the 25-20 was considered a pretty fair varmint gun.

The trajectory chart killed Slim's argument deadlier than a three-week-old mushroom. At 300 yards, the bullet was 18" low, and at 350 it would be over two feet. If much extra distance was added, Slim's bullet would be pointed almost straight down. I'm sure Slim killed the chuck, but at a distance much closer than he thought.

Slim is just one of thousands of hunters who misjudge the distance to the target. It isn't that they are trying to sound impressive with their long-range estimates; they just don't know. Distance is deceiving even to the ex-

perienced hunter. It's no easy matter to tell exactly how far it is to a deer out through the woods or to a chuck on the opposite hillside. If the shot has to be taken quickly, about all the hunter can do is hope.

Range Estimation Important

Of all people, the chuck hunter should be the most qualified to judge distance. The big game hunter, who takes to the woods for only a few days a year, can be forgiven for claiming that his 60-yard shot was "well over 125 yards." For one thing, when the big game hunter is successful, he finds little need to step off the distance. For him the important part is over; he has made his kill for that season. However, the chuck hunter is in an entirely different realm. He has no limit to the amount of varmints he can bag, so one shot just propagates another. Therefore, it is important for the chuck hunter to measure each shot accurately, study the distance, and compare it with shots he has made before. It may be only a few minutes until he will have use for his newly learned knowledge. The big game hunter may not have another opportunity for a year or more. I can see no reason why an experienced chuck hunter shouldn't be able to call the range within a few yards in his own hunting area.

Helen and I hunted several years ago outside of Coudersport with Tom Leete and his uncle. In that area, the shots can be long. Frankly, I was short on most of my estimates. Where I live, the land goes two ways—up and down. When I hunted where the fields stretched for hundreds of yards, I couldn't estimate distances as accu-

ately as Tom. Come to think about it, I didn't shoot too well, either. I plowed an awful lot of furrows, but I failed to make a kill. Helen connected on several. One in particular even impressed a long-distance shooter like Leete. Using an 88 Winchester 243, Helen dumped a chuck that Tom



TED THEM uses rabbit ear sandbag to cradle his 222 Sako while sighting in for a session in central Pennsylvania's wood-chuck country.

claimed was close to 350 yards. Helen is no stranger to shots beyond the 250-yard mark, but shooting slightly uphill in strange country requires a good bit of shooting know-how and maybe a little luck.

Getting back to Slim for a moment, it's obvious he made a fine shot. He considered it good shooting, but you and I know it involved considerable luck. Slim claimed he held a couple of inches above the chuck's head. With common open sights, the entire chuck would be blacked out by the front sight. There would be no way of knowing how far the front sight was above the chuck. It was the sort of fantastic shot that every hunter experiences once in awhile.

In the middle 1950s, I reached the conclusion that chuck hunting should be a precision sport. I gave up the





IN THE FIELD, shooter leans against tree to eliminate distracting wobble which is magnified by 20X Redfield scope. Note strip of fluorescent orange on hat.

idea that it was simply a bang away, aim where you will thing. I formulated a philosophy that a good chuck hunter should be known more for his skill and precision than his quantity of kills. Unfortunately, many chuck hunters don't share this philosophy. Too many summertime hunters think only in terms of power and distance. The idea of a 75-yard head shot with a 22 rimfire has little appeal to them. I feel sorry for the man who started his chuck hunting career with a magnum. He has missed the important training the 22 rifle has to offer. And he has not graduated from the common 22 through the hot little centerfires to the long-range varminters and magnums. About all he will ever know is that if he can see it, his rifle will obliterate it.

A young hunter expressed this power philosophy to me one evening. I asked him, innocently enough, how many placed shots he had made of the 94 chucks he had taken. "Who places a shot with a magnum?" he demanded. "All you gotta do is see hair in the scope and let fly. Anywhere you hit it will be good enough."

This young man had never crawled on his belly over 100 yards of fresh cut hay, trying to get within range for the 22 Long Rifle. I have, and I don't regret the sweat and stubble cuts; it has only made me appreciate the sport that much more.

The change to bullet placement shooting gave me a new insight into chuck hunting. I had hunted chucks for a good many years with the 22 Long Rifle, Hornet, Bee, and several low-powered 25 calibers. The sudden popularity of chuck hunting, along with the flood of long-range varmint rifles, took me out of the short-range head-shot type of shooting; quantity became an obsession with me. I hunted five nights a week and all day on Saturday. On top of this, I drove hundreds of miles to arcas where chucks were thick as wildflowers. I shot dozens of chucks without ever giving thought to where the bullet would go in or come out (which is just as important in preserving the animal for eating purposes). I had full confidence that the high-powered centerfire bullet would make up for any minor error in aim-

ing. I finally came to my senses. I realized this was nothing more than haphazard, reckless shooting without a bit of precision, and when I gave a little thought to my responsibility to be humane, I forgot all about quantity and began to concentrate on quality shooting. In other words, bullet placement and a clean kill.

Bench Testing Helps

Unfortunately, shooting under hunting conditions won't teach you how to be precise. When you miss a chuck at 200 yards, you really don't know whether you missed by an inch or 6 inches, and it's hard to tell with certainty if you shot above or to the side. Benchrest shooting shows you exactly where your bullet hit. Setting up a portable bench and shooting 5-shot groups at the distances you hunt will help you correct the errors you have been making. Date the targets, write on them all the information about the weather and wind and save them for future reference. You'll soon discover that it takes concentration, a perfect hold, and a clean pull to shoot a 2-inch group at 200 yards or more. It takes the same ingredients to place a bullet in a chuck exactly where you want it. I claim if the rifle is capable of this accuracy on the long shot, the hunter should try to be just as precise. Remember, if you aim at a chuck's head and hit it in the shoulder, you missed by three inches; that's not very good shooting.

Much ado is made over caliber. I can't say caliber doesn't have its place in chuck shooting, but it's often over emphasized. The 22-250, 220 Swift, most wildcat creations and the magnums are designed primarily for extra yardage, but this has no effect on the man who still uses the Hornet, Bee or 222. His precise shooting will be done at shorter ranges. I remember a Model 70 Winchester 22 Hornet that I used for a season or two. Although it had a 10X Unertl scope with a fine cross-hair, I never attempted any shots

farther than 200 yards. Up to that distance, I could practically call the shot. This may not startle some of today's long-range addicts, but it's gratifying to hit where you want and know how you did it.

Few chucks are shot at the exact distance the rifle is zeroed in for. Along with determining the distance, the hunter must know where his bullet will hit at that distance. If he miscalculates either one too much, the bullet will not hit where he intends. It is important that the hunter step off every shot he takes to see how accurate his estimate was. From the toe of one foot to the toe of the other foot, the average man can step 3 feet

HELEN LEWIS displays two large chucks taken at better than 300 yards with her 220 Swift.





SMALL WOODCHUCK is examined by Wilbur and Milton Anderson following a long shot in open country near Greenock.

by just stretching his stride a little. Even on rough, rolling terrain, a fair estimate can be stepped off. Going back to the benchrest and shooting groups at 100, 150, 200 and 250 yards without making any sight adjustments will show the trajectory.

The chuck hunter must know where his rifle is sighted in for if he intends to do any precise shooting. Since calibers and bullet weights vary considerably, he will have to determine the trajectory by actual shooting. My 22-250 50-grain slug sighted in $1\frac{1}{2}$ " high at 100 yards is 2" high at 150, $1\frac{1}{2}$ " at 200, and right on the button at 230 yards. Notice how quickly the bullet drops when it starts slowing down. When the bullet reaches 275, it's $2\frac{1}{2}$ "

below the line of sight. An error of only 30 yards in range estimation can spoil a shot.

I'm not trying to make chuck hunting sound like a mathematician's workshop. You won't need a slide rule and a surveyor's transit to become proficient, but with all the fine rifles and scopes that are available, there is no need for rough shooting. If you take the sport seriously and intend to improve your shooting, you won't have to hope for a hit. In a very short time, you might agree with me that placement shooting beats any other kind.

Chuck hunting offers a great deal to the hunter. The entire summer is at his disposal and targets abound everywhere. There are several cardinal rules. Ask permission and make safety your first commandment. Since you're a guest, treat your host's property as if it were your own. Last but certainly not least, remove your chucks.

Perhaps there isn't the thrill here of downing a bear or bagging a buck, but don't overlook the sport of precision chuck hunting. When you get to the point where you're calling your shots and making them, you're a much better hunter than you were. The poise and confidence gained by placement shooting at chucks will definitely show up in all the other types of hunting you do. Picking up an insignificant chuck is nothing like dragging out a 12-point buck, but just think—it will be another year until buck season rolls around, while the chuck that just stood up in the next field is fair game. The only problem is to get the distance and the trajectory figured out before the old rascal high-tails it for his hole.

Poor Porky

The porcupine's eyesight is so poor that it has difficulty detecting stationary objects at short distances.

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COVER PAINTING BY J. M. ROEVER

There's something highly appealing about a raccoon. Chances are, it's his "masked" face. It lends a touch of attractive devilry to his actions—which otherwise would often be regarded as outright nuisances. Such as when he decides to raid suburban trash cans about midnight, or pays a hungry visit to your camp supplies. At such times, his scientific monicker *Procyon lotor* is not what he gets called! Be that as it may, Old Ringtail has been an interesting resident of Pennsylvania's woods far longer than you or I, and chances are he'll be around even longer in the future. Let's hope so.

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Problem: Crime

AS THIS is written, numerous legislative bills are pending at federal and state levels—bills of importance to all hunters, target shooters, collectors, and individuals who want to keep firearms in their homes, for these are “gun control” bills. By the time you read this editorial, these bills will either have become law or faded, at least temporarily, into oblivion. It’s impossible accurately to predict their fate.

Never before has there been such an emotional reaction against guns, per se. That is understandable. We all are dismayed by cold-blooded assassination. Such acts are brain numbing. And at such times we react unthinkingly, blindly, with no thought of the future. “Eliminate the guns!” that’s the cry. It seems an easy solution. But that such reaction is understandable does not necessarily mean it is correct. We claim to be rational beings, and this, by definition, means we base our acts upon reason, not emotion. Yet emotion has, for months, held sway in this area.

Normally, the ponderous movement of our government takes care of this problem. Simple inertia and the procedural methods wisely integrated into the system by our Founding Fathers usually give enough time that hot blood cools and reason prevails before questionable laws are enacted. Recently, the public has been given no chance to relax and study the situation objectively. Each day’s newspaper carries feature stories and editorials demanding stricter gun laws, while numerous television and radio personalities have taken it upon themselves to comment, their remarks—largely ad lib and notable mainly for their one-sidedness—adding fuel to the fire. And a fire it is, for 40,000,000 gun owners, knowing themselves to be decent, law-abiding citizens who never abused their right to such ownership, reacted just as loudly and determinedly. Whether these bills are now law or not, it is dismaying that part of our citizenry believes they are necessary, for this has set one American against another in as serious a disagreement as we’ve had in many years.

The miserable part of the whole situation is that it’s all unnecessary. A “gun” problem does not really exist. It was largely created by a man who desperately wanted to keep his name before the public, and following the use of guns in several violent crimes was seized upon by news media as the *cause* of all such tragedies. By their logic, another law will prevent similar tragedies in the future. Or if not the next law, then the next one after that. This ignores the facts that we have had laws against murder for some time now and that a gun can neither think nor act of its own volition.

We can’t help wondering what will happen if all guns are eventually eliminated. Will criminals revert to the Old English method of murder so chillingly described by Shakespeare and drown their victims in a cask of wine? Or will they move ahead to the use of, say, lasers?

Such questions are crude, tasteless, ugly. We admit it. But, unfortunately, they’re also logical. For though we have no gun problem we certainly have a crime problem. But crime is a product of the human mind, and legislation against an inanimate object will never eliminate it.—*Bob Bell*





By NED SMITH

Flat-topped clusters of purple-black elderberries, bluets mating above weed-grown pools, Indian artifacts from before the time of Christ, and a "cobra" in West Mahantango Creek...

WITH TODAY'S clean farming old-fashioned elderberry bushes have disappeared from many well-kept fencerows. Only in neglected places do they thrive—lining pasture streams and forming dense jungles in out-of-the way bottomlands.

Right now they are heavy with flat-topped clusters of BB-sized berries—once considered first-rate pie filling and jelly material. Few people use them today, and in a fit of nostalgia I might mourn all that good food going to waste, but the truth is, elderberry pie never was one of my favorites. Housewives of another generation had their own special recipes—each one concocted to produce a more palatable pie than Mrs. So-and-so's, but although I've sampled every imaginable variation I was never moved to ask for a second piece the same day.

Elderberry jelly is something else. Every September the fruit shelves in our cellar were stocked with a double row of glasses of the purple-black spread, but they never lasted beyond midwinter.

I fervently hope that the "improvers" who are busily cleaning up our outdoors will leave a few patches of elders here and there. Today's sophis-

ticated grownups haven't much use for them, it's true, but there are still small boys in every generation who find adventure in exploring an elderberry thicket. Every kid should have the opportunity of finding a catbird nest, of meeting a garter snake face to face, of making an elder whistle, of eating bitter-sweet elderberries and pretending they are good. They'll not do these things on a macadamized playground, and I really believe they'll be poorer for having missed the fun.

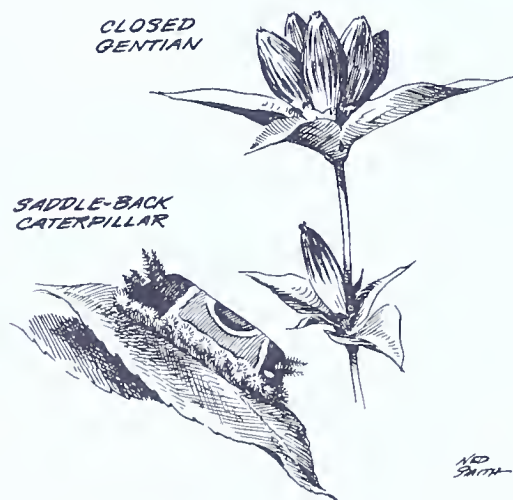
September 2 — The little damselfly called the "bluet" is so slender and frail you have to look twice to see it, but it is one of our prettier insects. The males especially are pleasingly colored—a delicate pale blue boldly marked with black.

Today there was a lot of activity among the bluets at the upper pond, and what is apparently the second mating season for the summer is under way. Tandem pairs coursed over the shoreline weeds. After mating, off they'd go to find an egg-laying site.

One pair approached a plant that emerged from the water, descending gingerly until the female could clutch a leaf edge at the waterline. While the

male hovered in midair, still holding her securely, she curved her abdomen into the water and inserted her eggs in the underside of the submerged leaf. Her task finished, he drew her from the water with a burst of speed, and away they went. A few seconds later two more pairs were laying their eggs beneath the same leaf. The nymphs that emerge from these eggs will live in the water until they mature.

September 3—A fox trapper told me of accidentally catching a possum in one of his dirt hole sets. He was astonished to find her pouch completely filled with three young possums which, in his opinion, were "big enough to be riding on the outside."



September 6—Coming up from the river yesterday I noticed a strip of bare ground where some trees had been cleared out with a bulldozer, and on a hunch I got the landowner's permission to look it over for Indian artifacts. Today it paid off; in a few hours we had found a number of spear points. Most of them were rather crude stemmed and side-notched points of rhyolite, but one was a perfect, beautifully formed and sharply pointed "fish-tail" point. Other artifacts included a rather thin ovate knife of rhyolite, and a celt. The latter—a small

chisel-shaped stone hatchet—had been roughed out by pecking with another stone and the surface smoothed by rubbing it against yet another stone. The cutting edge was still sharp and perfectly beveled, but the rest of the implement was badly chipped and battered, apparently by a combination of plows and bulldozers.

For probably half a century this field has been surface hunted by amateur collectors of Indian artifacts after each plowing, but for the past several years it has not been farmed and the encroaching sod has covered all evidence of Indian occupation. The bulldozed strip was the only bare ground in the area where a hunt was feasible. Artifacts from several cultures have been intermixed by farming and bulldozing, but from the evidence we gathered it is certain that some of these Indians lived here by the river thousands of years before the time of Christ. The fish-tail point is of more recent origin, but is probably more than two thousand years old.

September 9—I took a long walk today, and returned along an old wagon road that parallels the foot of Berry Mountain. The day was perfect—still and clear, but pleasantly cool. The leaves were damp and quiet underfoot.

An indefinable something hinted of fall, and it was probably the tremendous stir of activity among the small mammals and birds, especially noticeable among the dogwood trees. Although most of their fruits were still green they were already being harvested by hungry gray squirrels which leaped from switching branches and disappeared through the woods at my approach. One confused bushytail stopped dead when he saw me, hanging head downward on an adjoining oak trunk with a bunch of dogwood berries bristling from both sides of his mouth. He stared for a few seconds, then silently flowed away through the sun-dappled woods.

A few robins fussed nervously as I

passed. They'll arrive by the dozens a little later when the dogwood fruits are ripe and red.

Quite a few grouse flushed from beneath the dogwoods, and I suspect that they are picking up the squirrels' leavings. One that jumped scarcely twenty feet away had no tail—only a fringe of coverts to terminate his stubby body—but he flew well without it.

September 12—I found two Johnny-come-latelies of the botanical world in full bloom along Gurdy Run this afternoon—closed gentians and turtleheads. The former are often called bottle gentians, in allusion to their deep blue corollas that never open. Just last week I was told of a fellow who returned to a stand of these flowers time after time in anticipation of seeing them in full bloom. The season was nearly at an end before someone informed him that they are always "in bud." Like the turtlehead, the closed gentian blooms late in the year—followed in a week or two by the rarer and more celebrated fringed gentian.

September 16—Hoping that yesterday's shower had exposed some Indian artifacts that we had overlooked on an earlier hunt, we again looked over the bulldozed strip along the river. For an hour we found nothing but spalls of rhyolite, flint, and other stone. Then I came across a blackish flint spear point lying on top of the ground. It was asymmetrical, but in perfect condition. The next hour produced a few bases of notched points with their tips missing, but that was all. Apparently we've found nearly all the artifacts that show on the surface. Tomorrow I plan to show the material we've collected at this site to the state archaeologist—he's always interested in what went on in our area a few thousand years before Columbus arrived.

September 19—I never expected to see a new and terrifying serpent in the

languid water of West Mahantango Creek, but today I did just that. My attention had been attracted to a disturbance among the weeds at the edge of the shallows, and at my approach the snake, about three feet long, backed sinuously into the open water. Imagine my astonishment at seeing attached to its broomstick-sized body a brightly speckled head as flat as a cobra's and nearly as wide as my hand! I can't tell you when I've seen an uglier creature. The explanation spoils the effect—it was simply a large water snake attempting to swallow an equally large sunfish. The jaws were unhinged, as is customary, and the skin was stretched so tightly that the separate scales stood out as colored dots on the white background of skin. I tried to catch the hideous rascal and take his picture (he obviously couldn't get rid of the fish, nor could he swallow it) but he stayed out of reach and eventually escaped into deep water.

September 20—This is the time to look for patches of Jerusalem artichokes. The deep yellow flowers surmounting ten-foot, ramrod straight stems are easily spotted now—if you can tell them from other wild sunflowers. The delicious underground tubers will be at their plump, crisp best in a few weeks, and most landowners will let you dig a mess if you ask. There are countless ways of preparing them, but I prefer merely scrubbing them well and eating them raw.

In spite of the name the Jerusalem artichoke is a native North American plant; the Indians were cultivating it when the white man appeared on the scene.

September 22—I've been seeing quite a few red-tailed hawks lately, and the smaller broad-winged hawks are really on the move. Almost any day you can see several drifting and wheeling above the mountain slopes, heading south for the winter.

This morning I was watching one



perched in a tree on the edge of Cumming's swamp when he suddenly leaned forward and streaked to the ground just beyond the outermost trees. Through the binocular I could see that he was struggling with something—a wing occasionally flipped upward to maintain balance, and his head struck downward several times—but I couldn't see what he had caught. However, in a short time he took wing and flew across the corner of the field, a snake dangling limply from his talons. It looked like an exceptionally large garter snake, but I couldn't be sure. He stopped in the first fencerow, but changed his mind and carried his prize out of sight upriver.

September 23—This morning I found a saddleback caterpillar, his legless

belly pressed against a jewelweed leaf. Fortunately, I had missed brushing him with my hand by inches, for the tufts of the bristly hairs that decorate his body penetrate one's skin on contact and sting like nettles.

The saddleback is an unusually colored and marked larva. Its stout body is chiefly pale green. Both ends, as well as an oval "saddle" are a rich, purplish brown, separated from the green by a pure white border. Spiny "horns" project fore and aft, and a row of white tufts encircle the entire body at near ground level. Altogether, its appearance is striking.

The saddleback pupates in an oval cocoon in which it imbeds its still potent stinging hairs, and eventually metamorphoses into a dark brown moth.

September 26—There was little daylight left when I reached the foot of the mountain slope and stepped into a grove of brilliant cherry birches. Their lemon yellow leaves, as thickly strewn on the ground as among the branches, lit up the place like a patch of sunlight long after the real sun had gone down behind the surrounding forest.

In the eerie, yellow half-light I felt that fleeting twinge of sweet sadness that outdoor people often feel when leaves drift soundlessly to join their fellows on the ground and birds troop southward in the night. What does it mean? Is it a relic of the misty past when instinct told a shaggy humanoid that summer was gone for another year and the cold would come again to test his mettle and take its toll? I believe it is. Surely some of this remains in modern man.

Powerful Stuff

White-tailed deer fawns grow rapidly, and for good reason. Deer milk is very rich, with about twice the solids of Jersey cow milk and nearly three times as much fat and protein.



THE EXPERIENCE THAT COMES with years often leads a hunter to game where a youngster wouldn't think of looking.

The Senior Sportsmen

By George Bird Evans

Photos by Jack Gates

IT CAME AS a surprise when another grouse hunter said to me, "Of course, we're a little younger than you are. We can take it longer." Whether they could or not is unimportant, but what he said can rock you, no matter what your age.

You notice it first when younger men begin to listen to you with pronounced respect. Or when you happen to mention that you've been shooting for more than 40 years. Or when people think you're quaint because you prefer a double.

I'd like to make it clear, chiefly to myself, that I am not an old man, though more and more I find myself listening to *September Song* with feeling. A lot of us who can remember when we thought a man was old at 40 now look upon that age as young. There are men who go on hunting in their later years without much apparent change. If, when we pass 60—a

nasty word—we can still keep going like that it becomes evident that it isn't how old we are but how fit.

I've known men who were decrepit at 35, others who were hale and vigorous in their 70s and older. Keeping fit year-round as you age is the most essential factor in remaining active. If done with good judgment, shooting may add years to your life. Overexertion can have adverse effects at any age but the older man is more vulnerable. The secret is to adapt to a comfortable pace—a way of using the common sense we don't always employ when we are young. Frequent rests are important, for an exhausted man is not a good shot, and to turn hunting into a driven frenzy is to make it the sport of a fool.

I used to feel muscle stiffness in my legs after the first week of each hunting season. Recognizing that it came from lifting my feet walking in rough

cover, I began a month before opening day doing "in-place" running coupled with shallow knee bends, and my early hunting season cramps disappeared. I now do it throughout the year.

Every shooting man should have an annual checkup by a good physician. My doctor encourages hunting. He doesn't recommend violent uphill running any more than strenuous tennis for men past 40, but he suggests that any exercise, such as push-ups or trotting, that has been done regularly should be continued. It is the regular daily exercise that does the good.

Most men in cities, by using elevators instead of climbing steps, pass up an excellent chance to keep fit. Climbing steps should be started gradually, one flight the first week and building up to six or more. Walk down as well as up, for walking down-grade is part of hunting rough terrain and uses different muscles. Like all climbing, it should be done with a slow easy pace and regular breathing, with rests when the need is felt. This improves lung and heart capacity noticeably.

I have spent about a half hour daily doing exercises since I was 16. It isn't always easy and there are days when it takes sheer guts, but even if you did only 30 jump-ups, 30 push-ups, and 250 in-place running steps every day, it would soon shape you up for carrying a gun over rough country.

Discouraging Exercises

Too often, suggested exercise schedules are so extreme they discourage doing any of them and the result is negative. Even to the average healthy man, being told to run a mile doesn't make sense and to be advised to take a 50-mile hike is ridiculous. But a four-mile walk is something he can take the time to do, and if he does it often enough it will do him a world of good.

If you take no other exercise than walking, but do enough of it, you will

keep fit, for walking is probably the best general exercise and one that can be continued into advanced years. The shooting man is fortunate in this respect but frequently he does it only seasonally. Pre-season and post-season dog work extends this activity but the greatest benefit comes from walking nearly every day. The city man has no excuse for neglecting this for he has as many opportunities as the country man, though there is scarcely any comparison as to the air he breathes and the views he sees.

Limitations

There are limitations that occur at any age which may interrupt an active life, though most of them need not interfere with shooting altogether. Some years ago an orthopedic surgeon ordered me, with no alternatives, to wear a chair-back brace. When I saw the contrivance of steel and leather I was certain my shooting pleasures would be ruined. Once I got it adjusted, I found it not only was a comfortable support that extended my endurance and enabled me to twist through thickets without the back pains I'd been experiencing, but also that it encouraged a "turret swing" from the hips which improved my shooting. Under normal conditions I no longer need to wear the brace but I wear it by choice every time I shoot—an example of making a good thing out of a necessity.

Changes in hearing and vision are handicaps most of us, along with our dogs, must face as we grow older. Hearing can sometimes be improved by exerting more attention and concentration to pick up sounds. I have a shooting friend who wears a hearing aid but he says it over-amplifies twig snapping and leaf rustle in the woods.

For years I have found that eye exercises help maintain visual flexibility. Glasses are a nuisance in the field and lenses with extreme correction permit less flexibility of focal range than the unencumbered eye. Doing

without glasses may have some advantage if eyestrain isn't noticeable but the individual may not be seeing everything he looks at. When glasses are finally required he may be surprised that he not only sees more but shoots better. Seeing the bird clearly and not as a blur is a requisite of good wing shooting, tying in with the brain to coordinate accurate gun pointing.

Shooting Glasses

Long before I needed vision correction I wore shooting glasses for protection from twigs after several near-blinding accidents while hunting. Prescription glasses made for shooting should have sturdy frames and large lenses to provide a wide field of vision, with attention to accuracy in the upper margins through which vision occurs when the head is tilted forward while shooting. Since close-range segments of bifocals often interfere with walking, monofocals are more comfortable for field wear. I need middle-distance as well as far-range segments, and half-and-half "executive" lenses work well — the lower half embracing a walking range from my feet to about six yards, the upper half focusing clearly from six yards to infinity.

Almost every man, no matter what his age, has his Achilles' heel—or two or three. I have a thing called hypoglycemia which requires my eating at hourly intervals when hunting. It's unhandy but I adapt, and few men do more shooting than I manage in spite of this. It is usually possible to hunt if you have the determination.

Too many men view the aging process as an early stage of dying when, actually, aging begins when we are born. Aging is maturing, not necessarily growing feeble, and getting older can be a coming of age, an acquiring of knowledge and skills. Not all elderly men are superb shots but a number of excellent field shots are older men. Men with estimable opinions on dogs are usually the men with years of experience. The pleasures of

a shooting life are in the learning as well as in the doing and the man with a good brain continues to learn and, learning, remains young.

Motivation is increasingly recognized as a factor in keeping young, physically and mentally. The aging shot must not take the defeatist attitude that he is "over the hill." A man's Indian Summer often brings with it the time and the means to indulge in full-time pursuit of sport. He can select his days according to the weather, not the weekend. If ever he can spend his winters quail shooting in the South it is when he is older. And the dream many gunners entertain of beginning in New England in early autumn and shooting their way down the states with the seasons is most possible to the retired man free of business responsibilities.

One thing that makes the older shooter aware of the far end of the





UNIONTOWN SPORTSMAN H. D. Stone, with his setter Chris and a nice Sauer double—all friends of many years.

woods is the relatively short life of his dogs. Seeing them grow old brings parallels to mind. There is the knowledge that, some day, one or two will almost certainly survive him. Like making a will, this is something to be provided for, even though those particular dogs may not yet have been born, just as he will want to provide that his gun goes where it will be cared for and appreciated. But no matter what his age, the shooting man should never be without a gun dog.

I haven't yet reached the age when I yearn for callow youth, for there would be much to give up. However, on each of my last 10 birthdays I would have settled to stay at that peg.

If I may be permitted a philosophical word, as you reach each year it is like looking back down a tricky mountain-side. Being where you are, you can take satisfaction in having made it, for a lot of them don't get that far.

Annuity Coverts

If and when the older gunner must curtail his walking, there are kinds of shooting which can be enjoyed. I mentally reserve what I call my "annuity coverts"—level terrain which I will use when the going gets tough. All hilly coverts need not be abandoned, for many times the best way to gun them is by following the contour of the hills. Preserve shooting is a fine solution for the older man, offering a lot of action without long, hard tramps, and shooting from a duck or goose blind requires no walking except to get there. There is always skeet and trap shooting. And at any age, a dog with a comfortable range and manner of working to the gun adds pleasure and relieves tensions for the man who tires easily.

There are interests related to hunting which can be rewarding when actual shooting has to be limited—gun collecting, collecting cartridges and shells, expanding an existing sporting library, breeding gun dogs, even writing your own shooting memoirs.

Don't "Think Old"

The most aging thing a man can do at any age is to think in terms of being old. Instead of "old" try "not so young." Learn a lesson in living from your senior dog. The pup you work with may be loaded with energy spent in burning up the country, but the old fellow finds his pace and puts his efforts to good use, going directly to the birdy places and, once there, handling his birds with the finesse of years of experience. And when he lies beside you before the fire, his dreams are of what he has done that day and is eager to do tomorrow—not about when it is going to end.



A Whiff of Wilderness

SOMETHING in everyone cries out for an ounce—or maybe a ton—of wilderness. It's an inherent desire that leaves an individual unfulfilled unless it is realized.

It may be a simple act that he performs: as trite as potting a plant, hanging a piece of suet in the icy wind for the chickadees, growing a bit of green lawn, ivy on the porch, a tree . . . even hosting a caged bird.

By Carsten Ahrens



SOMETHING in everyone cries out for a taste of wilderness, the environment from which man sprang and to which some part of him forever belongs.

But life, aside from human life, seems to call to man. It matters little whether the individual lives in a penthouse or a tenement.

From the far past, when our distant forefathers lived in wilderness—there was no other place to live—this longing has been present. A desire there is to return, however briefly, to such fundamental things as sun, soil, rain, wind, and the denizens of forests and deserts, mountains and plains, and the reaches of shore and sea.

Lands for Posterity

Wise is the society that sets aside for posterity lands that will be idle as far as man's encroachment on them is concerned. Of course, no area is really idle; nature doesn't permit any plot to be inactive. A million organisms too small to be seen will be active, and food chains will soon come into being if not already present.

It is encouraging to find individuals and groups removing land from the market; soil that will not be buried beneath concrete; soil that will not bear superhighways, supermarkets, superhousing projects, super anything. It is heartening to find people demanding a halt to the contamination

of the air above and the pollution of the waters around, through, and under the continents of our earth.

So far, most of the protest is only protest. But in more and more places action is being substituted for talk. In western Pennsylvania, for instance, thousands of individuals have formed an organization that is setting aside thousands of acres where what's left of the wilderness can have a chance to be itself. Individuals of tomorrow, and even those of this generation, will have opportunity to identify with it.

Weed-Hardy

Organisms that have persisted on the earth through the ages are weed-hardy. If they—and man is included—hadn't been tough, the struggle for existence would have obliterated them long ago. The fossil record is crowded with species that couldn't keep up, couldn't compete successfully with their fellows, couldn't adapt to a world that was, and still is, constantly changing.

And echoes of that ancient struggle still sound down the corridors of genera and species. Man is still stimulated by prehistoric impulses that he finds hard to understand, let alone obey, in a modern world.

We hear as never before of the profound loneliness of man in today's existence. And paradoxical as it seems, the more crowded his world becomes, the less in touch he seems with those who should be his neighbors. This out-of-touchness is sure to grow along with the blotting out of natural areas.

Then there can be no opportunity to obtain that healing provided by nature as our fathers knew it: the sight and sound of the white water of an unhampered stream or of migrating flocks of wildfowl; the odor of a pine wood or the sound of wind in its needles; the taste of wild strawberries; the sight of a landscape carpeted with trilliums, mountain laurel . . . or even of blue chickory and white Queen Anne's lace.



A ROUGH-HEWN PATH on the edge of civilization appeals as no pavement can, even though it's a far cry from true wilderness.

These are simple things, but things vitally in tune with fundamental natural rhythms like the water cycle, the seasons, and the balance of nature.

It is told of a young man that he was both wealthy and discontented with his lot. He was unhappy with his work, his acquaintances, and his home. And his health was affected. His doctor advised a change of scenery, so he visited an elderly kinsman who lived in a most unprepossessing cabin on the shoulder of a mountain. He was amazed to find his relative serene and content. How was this possible when all the worthwhile things—fine restaurants, clubs, theaters, art galleries, libraries—were miles away?

Three-Week Stay

He stayed with the mountaineer for three weeks—joined him in his gardening tasks, the carrying for the barnyard animals and chickens, the hunting, fishing, and berrying. Occasionally there was a tramp up the mountain, just for the sight of flower-

ing dogwood, the nest of a hermit thrush—the eggs were bluish-green like a robin's and the nest was on the ground, of all places—or just to see a sunrise. Sometimes a hike was made down the mountain road to a small hamlet for groceries in exchange for eggs.

The food was more simple than any he could remember. The water came from a spring, pure and cold. His sleep each night was unbroken until dawn introduced the rural but often strenuous activities of another day.

He returned to his home, and his work, and his world, rewarded with the experience. A whiff of wilderness had brought about a change that was refreshing and a resolve not to allow too much time to elapse before returning for the rejuvenation wrought by a close association with the earth.

Every individual should have as an inalienable right the opportunity to return to a wilderness area. Are you doing all you can to preserve some such place for your children . . . and your children's children?



For the Birds

By William W. Betts, Jr.

I HAVE NEVER met a bird hunter who did not declare his dog was the best in the country. Perhaps this is as it should be—a fellow should be proud of his own—but such extravagant boasting I cannot abide. All I have ever claimed for my dog is that she is the best in Pennsylvania. As a matter of fact, on days when I am unable to ward off rare attacks of modesty I confine the domain over which she rules supreme to western Pennsylvania.

She is an English setter, Horsford's Dashing Dolly, and comes from a line dignified by Sam L's Skyrocket, Horsford's Dashing Drake, and Florendale's Peerless Susie. Barclay's Bouncing Babe, an unforgettably beautiful dog who last year took up the quest in the Happy Hunting Grounds, was her mother. But, as everybody knows, the coefficient of correlation between pedigree and performance ranges all the way down from +1 to -1. It is performance we all want to hear about. And for Dolly I am happy to supply an impartial report.

Now, remember, I never said she was perfect. She has her faults, like most of us, and these I shall first freely and frankly acknowledge:

She points rabbits! Yes, she points rabbits—very well, in fact. This used to bother me, for I have always heard that a good bird dog will register only contempt for such off-beat game as rabbits and deer. But it doesn't annoy me at all any more. I can't see that her interest in rabbits does any harm. Actually, it sometimes serves to relieve monotony. And I always know when it is a rabbit, for Dolly's tail will wag perceptibly. I never shoot a cottontail, and I suppose I have observed

to Dolly a thousand times, "Dolly, that is a rabbit. We do not hunt rabbits." But I don't punish her, so I am sure she will always share these discoveries with me.

And why should I complain about rabbits? For Dolly points almost everything. She is a bird dog essentially, so among the "extras" naturally she exhibits the greatest interest in meadowlarks and robins; but she will point sheep, she will point groundhogs, she will point sunfish, she will point stumps even. On one occasion she singled out a massive Hereford bull. This was a confrontation. With nostrils distended, eyes glaring and hoofs chopping the turf, the animal was an awesome adversary. But Dolly—I shall never forget it—did not relinquish her point. As the bull steadily advanced on her she calmly advanced also—backwards—step for step, until, crouching a little, she had slipped under the lowest strand of the barbed-wire fence. She never could have fetched that bull anyway.

Runs Away!

But she runs away! She has little cause, believe me. Nevertheless, when she has an opportunity she slips off over the hill behind our country house and (does she get lost?) doesn't come back. On the first two or three occasions we advertised at once for her over the local radio station. A catalog of her distinguishing features was aired to all corners of the county: "English setter—black and white—slight—female — answers (sometimes) to 'Dolly'—finder please call. . . ." But eventually, after several such disappearances, it was necessary for the announcer only to alert the radio pub-



DOLLY just couldn't get along with barbed wire. Once she even hung herself up in it by the rear leg, an act that required considerable ingenuity.

lic with, "Well, folks, Bill Betts' dog is lost again." Now we have in large letters a sign hanging on her pen for anyone who may let her out to romp: "Dolly *must* be watched, every second!"

I wouldn't call it a fault—in fact, it suggests an awe of nature that might be recommended to us all—but Dolly has an intense fear of thunderstorms. At the slightest suggestion of a storm (when clouds begin to gather, or a wind comes up), often long before it is perceptible to us, she will enter into such a mournful wailing that the whole neighborhood gets the willies. Unless she is brought into the house and afforded the sanctuary of the living room sofa she articulates her dread with an ever-increasing note of urgency.

Moreover, Dolly does not respond well to hand signals. Many times when I have carefully directed her SSE she has edged off to the SE; but I am not complaining any more about this failure either, for inevitably in

such cases it turns out that SE is where the birds are.

So enough about Dolly's faults. Let me turn now to some of her more dramatic moments in the field.

There was the time when Dolly disappeared, disappeared altogether. So I blew the whistle, and blew and blew the whistle. I had supposed she was working ahead of me in the tall grass, but finally I decided to retrace my steps through the heavy field. Just beyond the densest clump of goldenrod there was Dolly, tied up in the barbed wire fence. Apparently, in leaping through she had flipped the middle strand up over the top strand and engaged her left hind leg as securely as if she had stepped into a No. 2 steel trap. She'd had enough sense to reach back and take hold of the wire to keep the weight off the leg, but of course she could not bark and had to wait for me to find her. I wish I'd gotten a picture of that, but even if I had a camera I am sure I would not have had the heart to leave her hanging long enough to snap the shutter.

Barbed wire fences seem always to heckle Dolly. I have seen her, while leaping gracefully over a fence, suddenly go on point in midair. You could tell that she just wanted to freeze, but she had to come down. This sort of thing I have come to call the "parachute point."

Bare-Field Point

Then there was the time she stopped on point in a bare field just a few yards ahead of me. I could see that nothing was there. The field was quite bare, showing only the faintest tufts of grass. Naturally, I supposed a bird had just flown from the spot. I walked in fairly close, just to be sure, but found nothing. And so I walked on ahead, urging Dolly to start hunting. After a few paces I looked back, only to see that she was still stiff as a statue. "Dolly, come on!" I said. Nothing doing. The only thing to do was go back and make more impressive to

her my superior sense of things. Imagine my astonishment when a large covey of quail exploded from that perfectly bare bit of ground. I was flabbergasted! It was a lesson well learned, though. From that time on I have honored her every point, every indication of interest.

Disdains Disgust

Another thing I like about the little setter is her attitude toward the hunters. She never exhibits the slightest disgust or disdain when we miss a shot. In fact, because it takes so long for me to get the limit of two pheasant or two grouse, I believe she really prefers to hunt with me, rather than with some of my sharp-shooting buddies. There will appear on her delicate features a most quizzical expression when no one fires at all, as when a hen goes up, but she seems satisfied to be congratulated and returns to the hunt as zealously as before.

I have known her on several occasions to locate a rooster pheasant in a tree. As everybody knows, freshly stocked young birds will often simply hop up into a tree to escape a trailing dog. Dolly barks at such birds, much as she would at a squirrel, until I arrive. The procedure then is for me to shake the tree until the bird has flown. We mark it down as best we can and work it from there.

I suppose every bird hunter has had this experience: I have lost Dolly in high-grass fields, lost her completely for as long as fifteen minutes. In the beginning I used to blow the whistle for her, but now I know better. For it always turns out (except when trapped in barbed wire fencing) that she is on point, sometimes nearby.

I have known her, too, to track a winged bird through fields and hollows, along fencerows, uphill and downhill, for well over a mile. And this is exciting. Nothing is more a joy than to see her after such a chase, perhaps a half hour late, come stepping back gingerly holding the bird in her mouth.

I know many hunters who, having lost a wounded bird, claim that it has gone down a groundhog hole—and I know that this does occur occasionally—but most hunters have no idea how far a winged bird, or even one who is simply tired of exposing himself to No. 6 shot, will run.

Dolly is good on all kinds of birds: the mourning dove, the ruffed grouse, the pheasant, the woodcock, the quail. I know many people who claim that pheasant hunting will ruin a dog for grouse, but that has not been the case with Dolly. She has hunted pheasants hard for ten seasons, and this last fall on the first day of grouse season she was on point for four of us all day long, almost constantly.

I have never actually taken her out for doves, but I have known her with a keen wind to go staunch on point on doves in a cornfield 50-60 yards away.

The timberdoodle I think is her favorite, and through the early part of November we spend a good bit of time in the boggy places in quest of these wonderful little birds. They do not fly far, and when I miss, which is most of the time, we are bound to get another point.

Fastest Gun in the East

There are only a few quail in our part of Pennsylvania, and many sportsmen's groups urge hunters never to shoot them. But Dolly has been quail hunting in Delaware, which is terrific country for this popular game bird. Large fields of soybeans, acre after acre of oats and ragweed, immense patches of honeysuckle, oak groves, and briery fencerows provide bird hunting that is tough to beat. We've had lots of excitement in the First State, but one moment I remember especially vividly reflects not so much on Dolly as on me. You have heard of the fast guns of the West—well, we were searching out singles when one that Dolly had located went up at my feet. Would you believe three shots at a bobwhite with a single-barreled

20-gauge? And the worst of it is that I had need of a fourth!

We have taken in the pheasant hunting in the eastern part of the state, near Pottstown and near Mifflintown, but there are so many birds in those areas that Dolly goes crazy with confusion. We prefer our own birds in the West that we have to hunt a little. There is, for example, the rooster of Knobby Knuckle. In one corner of an immense field that Dolly and I know inch for inch there begins a steep slope which concludes in a succession of domes or knobs. The whole region is profuse with young evergreens and grapevines and briers, all in a real tangle. Well, for three seasons now Dolly and I have been having an affair with a long-tailed ring-necked rooster, without much to show for it. The Old Boy, as we call him, is just too smart for us. He has his trails, which are really runways to the sky. Each of these leads through the brambles and off the top of one dome or another. As soon as he senses we have located

him, he runs like lightning down one of these trails and takes off without waiting to be pointed at. Though I have seen him many times, it is almost impossible to get a reasonable shot. But that's as it should be. We enjoy him, and I believe he really enjoys the attention. His tail is getting longer, and we are all getting a little older in a healthy fashion.

The Last Dolly

By this time I am sure that every reader is armed with pen and ink and a determination to write for one of Dolly's litter. Regretfully, I shall have to ask you to desist. Dolly, at the proper times, has been introduced to the most attractive males in the territory, most notably several of the setters of Harold Boulton and Pep Undercoffer of Clearfield, but she has shown no interest in becoming a mother. So she will be the last Dolly. But in the affections of those who have seen her in the field, she shall romp forever.

OUTWEIGHED A TON OR SO, Dolly advanced to the rear after pointing a bull. Just as well—she couldn't have retrieved it anyway.



South Mountain White-tailed Deer

By Robert W. Douglass

Assistant Professor of Forestry, Mont Alto Campus
Pennsylvania State University

IN AN ATTEMPT to get a greater harvest of deer from a larger herd each year, the Pennsylvania Game Commission has done a commendable job of giving the hunter the chance that he needs to get a white-tailed deer. This past season, it was estimated there were 650,000 deer in the Pennsylvania herd. Studies made in southcentral Pennsylvania tend to reinforce the Game Commission's estimate concerning a large deer herd. Within the 45 square mile area under study, the first two-day buck kill was higher this year than in any previous year of record. The lowest kill was four years ago when the study was begun. The study area produced a ton of white-tailed deer for approximately each six square miles during the first two days of buck season alone in 1967. During this period the number of hunters sampled remained relatively constant.

During the last four years, Penn State forest technicians have conducted a study of deer hunting on the South Mountain Range of southcentral Pennsylvania. This study was initiated to gain information about the white-tailed deer and hunters who are successful in bagging him. Information concerning the deer population of the

study area has been obtained by measuring the deer killed during the first two days of each antlered deer season. Data describing the hunters were obtained by interviewing all those successful and by sampling the non-successful ones.



Approximately 3000 hunter-day visits were made to the study area each season during the years surveyed. This figure remained remarkably constant, both in size and in composition. Pennsylvanians made up 97 percent of the hunters, and 80 percent

TABLE I

Age distribution of successful hunters compared with all hunters in the South Mountain Study Area.

	12-17 (%)	18-24 (%)	Age 25-44 (%)	45-65 (%)	65 + (%)
Successful hunters	15	12	45	22	6
All hunters	2	17	45	30	6

Average for 1966 and 1967 seasons.

TABLE II

Percentage of deer harvested by time periods for the four study years.					
Year	Time of Harvest in Percentage of Total Kill				
	7:00- 9:00 a.m. (%)	9:01- 11:00 a.m. (%)	11:01 a.m.- 1:00 p.m. (%)	1:01- 3:00 p.m. (%)	3:01- 5:00 p.m. (%)
1964	42	32	10	13	3
1965	51	30	2	14	3
1966	60	22	4	10	4
1967	32	28	18	18	4
Ave.	46	28	9	14	3

of these reside in Adams, Cumberland, Franklin and York Counties. Hunters from these four counties took approximately 90 percent of the deer harvested. The three percent of non-resident hunter visits accounted for approximately two percent of the kill. Successful out-of-state hunters generally came from nearby parts of Maryland.

Age distribution of the hunter population indicates almost half were in the 25- to 45-year-old bracket and that they bagged almost half the deer taken. (See Table I.) The 12- to 17-year-old group, interestingly, made up only two percent of the hunters but reported 15 percent of the deer harvested.

The study shows (see Table II) that most bucks were taken early. Almost three-fourths of the total were

bagged before 11:00 a.m. A slight upturn in success took place during mid-afternoon after a lunchtime drop to nine percent. The low of three percent in the late afternoon might reflect a slight error caused by the inability to contact persons leaving the area during nighttime hours. However, this error is not believed to be great in light of the exodus of hunters from the area prior to 5 p.m.

The hunter-day to deer-harvest ratio has been used to determine relative success on each of the two days studied. That is, that number of hunter-days spent in the area was compared to the number of deer taken for that day. This ratio gives a measure of the number of hunter-days invested to take each buck. Comparison of the ratios for the first and second days indicates that chances for success

TABLE III

The hunter-day to deer-harvest ratio and the weather as recorded in the South Mountain study for 1964-67.				
Hunter-day to deer-harvest ratio			Weather	
Year	First Day	Second Day	First Day	Second Day
1964	53:1	122:1	Clear and mild	Cold with snow flurries
1965	29:1	88:1	Clear and mild	Cold with snow flurries
1966	71:1	44:1	Heavy rain all day; cool	Clear, cold with snow flurries
1967	27:1	83:1	Clear and mild	Cold and partly cloudy

are approximately three times better on the first day than on the second. A notable exception to this pattern occurred during the 1966 season when heavy rain fell on opening day. The downpour reduced hunters' activity but not their number. As a result of this inclement weather, the ratio was 1.6 times more favorable to the second day. Table III shows hunter success ratios and the weather for the past four years of the study.

139-Lb. Buck Average

Bucks removed during the study had an average live weight of approximately 139 pounds. Live weights ranged from a low of 72 pounds to a high of 220. The weight of each deer was calculated by using the heart-girth method rather than by actually weighing the animal. This method involves measuring the circumference of the deer's chest cavity in centimeters and inserting the figure in the following equation:

$$\text{Weight (kg)} = -87512.738 + 1709.355 (\text{heart girth measurement})$$

This method was used because it entails less bother to the successful hunter and because it does not require elaborate equipment. It was recommended by Dr. James Lindzey of the

Sport Fisheries and Wildlife Cooperative Unit at Pennsylvania State University.

Deer were aged by the following equation supplied by Dr. Lindzey:

$$\text{Age (months)} = 11.7357 + .000547 (\text{Weight in kg}) - 0.27274 (\text{leg measure})$$

The leg measure is taken in centimeters from the scapula to the top of the hoof. The age of the harvested population appears to parallel the statewide white-tailed deer population. Approximately 72 percent of the harvested deer were 1½ years of age and 24 percent were 2½. None of the measured deer were over 3½. As might be expected, the older deer were the heaviest. The 3½-year-old deer had an average weight of approximately 207 pounds. The average weight of the older deer compares very favorably to the average weight of approximately 139 pounds for the total population.

Although this survey took place in a limited area of Pennsylvania, it is being replicated each year as an exercise for the Penn State forest technicians at the Mont Alto Campus. Many variables influencing hunter success in the South Mountain Area can now be evaluated. Some other variables such as weather will require further study.





Finding the Phantom

By Albert G. Shimmel

A SUBURBANITE, afflicted with insomnia and intrusiveness, observed a man lurking in the shadowed doorway of a neighboring residence. She watched as he glanced furtively up and down the street, then stole quickly around the corner to a car parked in the shadow of a tree. She had a glimpse of a suspiciously shaped valise and noted that he carried the family's pet cocker under his arm. The car drifted without lights for fully half a block before the engine started and the car sped away into the predawn darkness. When the police apprehended the criminal following her call, they found only a woodcock hunter trying to reach his favorite, early season covert unobserved.

It has been suggested by a psychologist that the hunter assumes some of the characteristics of the quarry he seeks. To the novice, a veteran hunter may offer a wealth of information dealing with the generalities of the sport. He is often willing to express and defend his theories on such diverse subjects as cover, phases of the moon, barrel choke, weather, size of shot, spaniels versus the pointing breeds, effect of storms, migration, drought and other pertinent information. But should the embryonic hunter be so impudent as to inquire the exact location of productive cover, he will receive only evasive replies or cold-eyed silence. To request such information is to commit the unpardonable sin and place his opportunity for acceptance into the woodcock hunter's fraternity in jeopardy. It is an unwritten law that each woodcock hunter must locate his own shooting grounds.

Certain indications guide both the beginner and the expert to the habi-

tat favored by this aristocrat of game birds. Woodcock needs are few but exacting. They are breeding grounds, nesting cover, resting areas and food.

Food to the woodcock's epicurean taste means one thing—worms and more worms. Wildlife biologists estimate its daily food consumption is from 50 to 90 percent of its body weight. They also have proven that earthworms are approximately 80 percent protein. (A diet for dieters!) Reduced to a small boy's bait can-fishing pole thinking this would add up to about 20 to 25 nightcrawlers or about 100 worms of the garden variety. The total weight of one day's rations for a woodcock would weigh about three ounces.

Passion for Privacy

The woodcock has a passion for privacy. He is largely nocturnal and thus his habits escape human observation except in the dim half light of dawn or dusk. Some observers scorn the woodcock as a degenerate member of the shore bird family. He has forsaken the wide expanse of sand, the pounding surf and the bitter brackish salt marshes of his ancestors and chosen instead the alder flats that border the sweet water trout brooks, the mellow worm-infested soils and sunny slopes. He has traded a streamlined figure and long shapely legs for the portly profile of a well-fed alderman. He lives well, loves his ease, goes about his business quietly and has developed a song. Despite appearing as if assembled from a number of heterogeneous parts, his shape, sight, hearing, sensitive bill and protective coloration are highly developed adaptations to his chosen environment.

The scientific name *Philohela minor*

may lead the beginner to seek the bird in unsuitable surroundings. Philohela means "swamp lover" and minor, "little." Actually the ideal habitat would be grassy clearings surrounded by scrub and sapling patches about half made up of alders and the balance of hawthorn, crab apples, maple, cherry, gray dogwood and other trees that thrive on slightly acid to neutral soils. A bit of higher ground, exposed to the sun with a suitable cover of briers and golden-rod, is essential for loafing and nesting. The preferred location is on high ground at or near the edge of a sparsely grown thicket. Some overhead cover seems to be desired. A female is prone to return to the site of a successful nest for several years in succession.

The northern migration begins early in February and progresses in easy stages until by mid-March the birds have reached the lakes and river valleys of the northern tier of states. Some birds are already at

home, having braved the winter along the spring brooks and unfrozen bogs.

In the spring twilight when the chill of melting snow still fills the air the search for the phantom begins. Now is the time to check the chosen spots and watch for homing silhouettes against the evening sky. Listen for the nasal *p-e-e-n-t . . . pe-e-n-t* sounding from the alder flats and giving promise of the autumn's sport. The sound is unmistakable once it has been identified. It has a wet, amphibian quality that harmonizes with the pipings of the *Hyla crucifer*.

The mating ritual is an unforgettable performance. The male selects a clearing and struts about, uttering his call at well spaced intervals and interspersing each *p-e-e-n-t* with softer coaxing notes that remind one of the cooing of a dove. He nods and struts. He drags his wings and elevates his diminutive tail in comic dignity that would shame a turkey cock for pride. A score of times he calls, then springs into the air. The three narrow flight

DURING THE MATING RITUAL the male struts about, dragging his wings and elevating his diminutive tail in comic dignity.





AFTER ABOUT 21 days the eggs hatch. The downy chicks are boldly marked, with dark streaks from bill to eye and down the neck.

feathers whistle as they do in autumn when they flush before the gun. He circles counterclockwise, barely clearing the tops of the alders, then climbs in a spiral that diminishes rapidly until his form is almost lost against the fading light. Suddenly we hear a song, an ethereal, bubbling melody. The volume grows as the bird comes plunging down. He checks his fall above the tallest branch, then drops to earth. The performance is repeated at dawn and dusk until the hen completes both clutch and incubation. The male, his work complete, leaves her to her brood.

The nest is never far from the singing grounds, generally on the nearest rise of ground, often within 100 yards. The female relies on her protective coloration to such an extent that she will often allow a hand to brush her back before she moves. In exceptional cases she will allow an egg to be removed from the nest while she remains in place.

The eggs are surprisingly large for the size of the bird. They have a ground of pinkish white, faintly opalescent, marked with brown. They

blend so well they are almost invisible against the few dried leaves that line the slight depression which serves as a nest.

After about 21 days the eggs hatch. The downy chicks are boldly marked with dark streaks from bill to eye and down the neck. The back has black irregular lines and a pair of dark triangles at the shoulders. The background is subdued orange-gray. The bill is short, the legs flesh color. They follow the female almost as soon as the down is dry. If danger threatens they squat motionless while she flutters helplessly, trailing an apparently broken wing. When she has enticed the intruder a sufficient distance from the brood, she recovers miraculously and takes flight. It has been claimed that the female will at times transport her unfledged young between her feet. The few eyewitnesses differ as to whether this is accomplished by accident or design. A flushed hen once was observed to carry an egg a few feet from the nest. This was probably an accident. The egg was returned to the nest, where it hatched.

When a chick becomes separated from the brood its call of distress is a thin, high-pitched piping. It is quite distinctive and quickly brings the mother if she is within hearing.

Grow Rapidly

The brood grows rapidly and by midsummer the young are not distinguishable from adults. They remain in the general vicinity of the nest, where their presence is revealed by the probe holes in damp spots and the numerous white chalkings. Those that survive the winter and return in the spring can be expected to return to the locality of their beginnings.

The mortality rate among young woodcock is quite low. Studies have shown that the female brings to maturity an average of 3.88 chicks per brood. Some investigators speculate that perhaps the bird is distasteful to animal predators, pointing to the fact

that some dogs that willingly handle other birds refuse to touch a woodcock even though they point them enthusiastically. Most observers attribute their survival to protective coloration and nocturnal habits. Nobody knows for sure.

How many birds will the gunner expect to find when he hunts for natives in the autumn? For every male heard on the singing grounds in early spring there should be a female and three mature young. The formula is simple. Count the singing males and multiply by five. Study the covers for splashings and probings. They'll lead you to shooting.

Flight birds are the frosting on the cake. The best resting covers for these migrants are in the valley pockets that extend in a north-south line. The low flying birds funnel to these spots. A hint of storm north of the border will send them down. When such a storm coincides with clear skies and a full moon, expect the best. Pockets

that held only a dozen native birds may be crowded with several times that number of migrants. When the storms move farther south, covers that yesterday held scores may become barren over night.

Woodcock are like gold, found in the most unexpected places. I know a half-acre island that rises from the channels of a beaver dam where a dozen birds are found each year. A brushy swale, watered by a spring that rises in a high apple orchard, can be counted upon to provide a bird or two. The treasure of them all is a low flat between two intersecting airport runways. Here, the male birds sing along the grassy borders and hen birds feed their young, undisturbed by the roar of planes.

What is the secret of finding the phantom? Find the singing ground. You will have discovered the home of an interesting mystery that will pique your curiosity as well as your shooting skill.

Johnny Appleseed Festival

The second annual Johnny Appleseed Fall Festival will be held at Sheffield, Pa., on September 27 and 28. This is the first event in Warren County, and probably in the state, to honor Pennsylvania's frontier folk hero, John Chapman, now better known as Johnny Appleseed, who set up his first apple tree nursery on Brokenstraw Creek in 1797. More than 50 organizations are cooperating in this nonprofit event sponsored by the Sheffield Area Chamber of Commerce. The festival will recall old-time lumbering days, with horse-pulling contests, chain saw, crosscut and bucksaw competitions, log rolling, wood chopping, ax throwing and other events.

Guns and Game

Most wildlife produces more young than the environment can support. . . . The over-production, or surplus, is lost in nature by death in many forms—predation, disease, winter kill, accident, starvation and even stress mortality brought on by overcrowding.—*William E. Towell, in "Shooting Is Conservation, Too!"*

A Real Sense of Hearing

The pileated woodpecker can locate wood-boring larvae inside a tree by the sound they make.

Headhunting in the Treetops

By Eldy Johnston



OUR FAVORITE squirrel hunting grounds since 1940 have been in Potter County. Here, the blacks and grays are found in a 50-50 ratio. An abundance of beech and black cherry, plus scattered oak, maple, butternut and chestnut oak, is the attraction. Cover seems to be the least of a squirrel's worries, as rotting limbs blown from a beech tree and the pileated woodpecker's activities are the start of many den entrances. I once came upon a woodsman who had just felled a tall hemlock. The top, which was partially decayed, had split when it crashed the ground. The woodchopper was just placing a litter of unharmed baby squirrels in his cap, two blacks and three grays.

Another reason for my preference for rugged Potter County is that the terrain lends itself to safe rifle shooting. The first year I hunted the bushy-tail we used 12-gauge shotguns. After I nicked a pair and my companion hit three that weren't recovered, we both decided that "shotguns for squirrels" was not for us.

We soon found that squirrel hunting

with a rifle provided more of a challenge and gave more personal satisfaction than scattergunning. Of course, it was "head shot or miss," but as both my friend and I had qualified for the NRA Expert rating, we did well enough on the elusive targets.

My first squirrel rifle was a Model 65 Winchester, lever action 218 Bee with hand-loaded hollow points, mounted with a 330 Weaver scope. This was more gun than necessary, but we were also in good wild turkey country, so there was a chance the extra power would prove useful. Mac found a Marlin Model 39-A 22 rimfire to his liking. My next choice was a Model 43 Winchester in 218 Bee. It, too, performed well on squirrel and doubled on wild turkey. When Marlin came out with their 22-caliber Model 56 Levermatic, with short-stroke lever, it became, and still is, my favorite bushytail rifle. Long rifle hollow point ammo provides sufficient accuracy, as shots are very seldom over 50 yards.

We usually leave camp and strike out in different directions to cover more ground, locate the quarry and

advance more quietly than together.

Walking slowly and pausing often, I make frequent use of my compact 6 x 25 binoculars. They are light, shirt-pocket size, and have a good field of view. For safety reasons we have agreed not to use the rifle scope as a substitute for binoculars or to shoot at squirrels on the ground.

In midmorning, an old bushytail is prone to lie on a limb or high in the crotch of a tree, taking a siesta. Sometimes only his head and ears are visible—quite a challenge for the naked eye at 50 yards or so. When I'm not straining my neck with eyes scrutinizing the treetops, I look for telltale squirrel scratches on the trunks and feeding sign on logs or stumps. If you see hickory nut, black walnut or butternut hulls broken into several large pieces, be alerted for grays, if the sign is fresh. They also chew acorns into several pieces and remove the meat in large segments. The red squirrel chews the acorn into fine pieces and makes a minimum opening in the walnut and hickory nut. Sometimes you

can locate a gray by its distinctive rasping bark or by its odd whine that sounds not unlike a cat.

Leaf nests are also a good indication of a squirrel colony nearby. It's against the law to shoot into a nest, but sometimes the tug of a convenient grapevine will put the grays to flight. The rifleman will soon find that a fleeing squirrel is an almost impossible target. We learned long ago not to shoot at running grays; the trick is to follow them through the treetops with the scope, then squeeze when they pause to leap to another tree. Such shooting isn't easy, but it's not impossible.

I discovered by accident several years ago that I owned a squirrel dog. My Weimaraner bird dog wanted to go along so bad that I took her to keep her quiet. She barked treed on several squirrels and retrieved each one dropped, which was all that a dog is supposed to do.

It is simple to field dress and skin a head-shot bushytail. Remove the entrails, make a cut through the skin around middle of body, grasp skin in each hand and remove as you would a pair of gloves. Cut off tail, head and feet, disjoint and place to cool.

A DAY'S LIMIT of bushytails bagged with 218 Bee by Johnston. He prefers a rifle to a shotgun for squirrels.



A Squirrel Dinner

Here's my favorite recipe for a camp squirrel dinner. Suggested ingredients are: two squirrels, four medium potatoes, two carrots and two medium onions. Serves two hungry hunters.

Cut squirrels into serving portions (head-shot squirrels don't require soaking in salted cold water). Halve potatoes, carrots and onions. Dip squirrel portions into flour and brown on both sides in a hot, greased, cast iron fry pan. Add potatoes, onions and carrots. Season well, cover with hot water and place lid on frypan. Cook for about an hour or until well done, adding hot water as needed. Remove meat and vegetables, then stir a cup of flour-thickened hot water into the juices in the frypan for gravy. Season to taste. Enjoy yourself!

*Sometimes It's the Quarry Itself That Gives
a Clue When It's Time . . .*

To Name a Hunting Camp

By E. E. Apel

ONE OF OUR camp members, Mel E., being in an indulgent mood, designed, then purchased for the rest of us, a shoulder patch insignia which bears the name of our deer hunting camp. Whenever any of us wear these patches we are bound to be quizzed about the name, for it is most unusual. Therefore, for the sake of the records and the curious, I will relate the experience whereby our camp acquired its odd title.

It all came about in a very logical manner. Each of us had put in several seasons of deer hunting. Sometimes as individuals, sometimes as a gang or a sub group of the whole outfit. Those hunts were of various kinds. Occasionally, it was just the bunch out for the day. Again, it may have been the lot of us using a relative's camp the second week of the season. Or, it could have been just one of us on one of those sleep-in-the-car overnight jaunts into big game country. Anyhow, all of us had experience and as we were associated in many other ways it was natural for us to get together and form a regular big game hunting camp. There are five of us, and in the order of our *baldness* we are, namely, Earl M., Mel E., Dave T., myself and Ned B.

Year of the Cold Winds

Our first planned camp was located in Clinton County, near the Old Stone Chimney. This camp consisted of a big tent and was equipped with gasoline lights and gasoline cook and heating units. The members brought everything else—bedding, pots and pans, eating utensils, etc. This arrangement and gear suited us admirably until the

Year of the Cold Winds. Then we nearly froze. But I'm getting ahead of my story, for in the meantime we had acquired our unique camp name.

Our camp-making plans in '38 called for Ned and me to leave early Saturday with the canvas and other heavy camp equipment. The others would follow later and bring the personal belongings. As it worked out, they arrived soon after we did. The five of us working together put up the tent and had camp in good order before dark. Sunday was spent making things comfortable for the coming week and in scouting the adjacent area for deer sign. Ahead of us was an antlerless season and we did not anticipate any difficulty in filling our roster.

Each Man for Himself

Being so confident, we did not plan any organized driving for the opening day. Monday morning we scattered from camp to known passes and crossings. Each man for himself, although everyone was explicit in defining the areas he was going to hunt. For this particular season we had each acquired a cheap, oversize, brilliantly red shirt. These were to be worn over our regular red hunting coats as an added safety precaution. An hour before the legal shooting hour we donned our scarlet shirts and headed for the locality each had selected as his lucky spot. We made up a small jackpot. It was to go to the hunter bringing in the biggest and, supposedly, oldest deer.

Mel, Dave and I elected to hunt along the southern rim of Round Island Run. Earl and Ned were going into the headwaters of Wistar Run. Before leaving the camp we had syn-





WHEN DAVE'S "Old Trusty" barked, the big doe dropped—and we had the name for our new hunting camp. . . .

chronized our watches. When I arrived at the stand I had chosen, my timepiece showed the legal shooting hour was some five minutes past. Within 20 minutes I passed up shooting at five antlerless deer. Then along came a big, gray-muzzled doe. One well-placed shot did the business.

As I dressed-out the deer I heard a shot from where I figured Dave had posted himself.

Upon completion of the dressing job, I decided to walk over to Dave's stand, for I was positive it was his 32 Special, "Old Trusty," that I had heard. I found Dave intently watching the thick brush on the bank above him.

"A lot of deer ran up that bank a few minutes ago," he said. "I picked out what I thought was the biggest doe and cut loose at her. She's down in the brush. Go see if she's down to stay. I'll cover from here in case she gets up."

He directed me to where he had last seen the deer and I located it just a few yards beyond. The deer was certainly down to stay, for Dave had made a perfect heart shot. I shouted my findings to him and he scrambled up through the brush to where I was. We talked for a few minutes then hauled the deer to a more suitable spot to dress it. Then, at practically the same instant, we both noticed something most unusual—*this doe did not have any ears*. There were two short, stiff, leathery stubs, but no real ears.

Through Dave's shot our camp acquired its name—Lost Ears Camp.

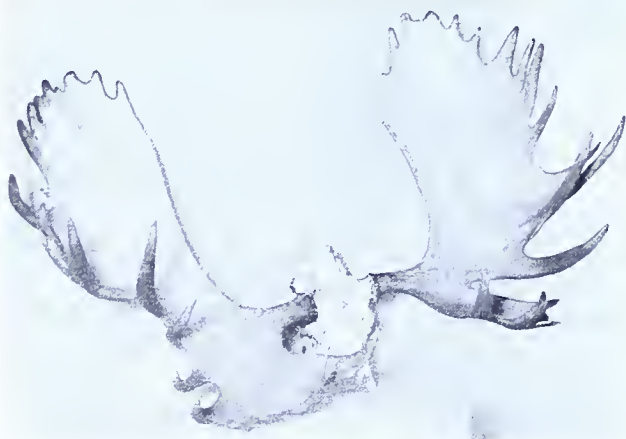
More Land for Laurel Ridge Connector State Park

Western Pennsylvania Conservancy has announced the conveyance of 2576 acres in Fayette County to the Commonwealth of Pennsylvania for incorporation into the proposed Laurel Ridge Connector State Park. Secretary of Forests and Waters, Dr. Maurice K. Goddard, revealed that this was the second acquisition made by the Department of Forests and Waters from the Conservancy for the Laurel Ridge project which when completed will include 15,000 acres.

Earlier this year the Conservancy transferred 2969 acres of land in Westmoreland County for inclusion in the new park. The Conservancy still holds some 5800 acres in Somerset and Cambria Counties which are expected to be transferred to the state at an early date. The Conservancy's total acquisition for the Laurel Ridge Park was 11,400 acres.



GENERAL VIEWS of trophies at top of both pages.



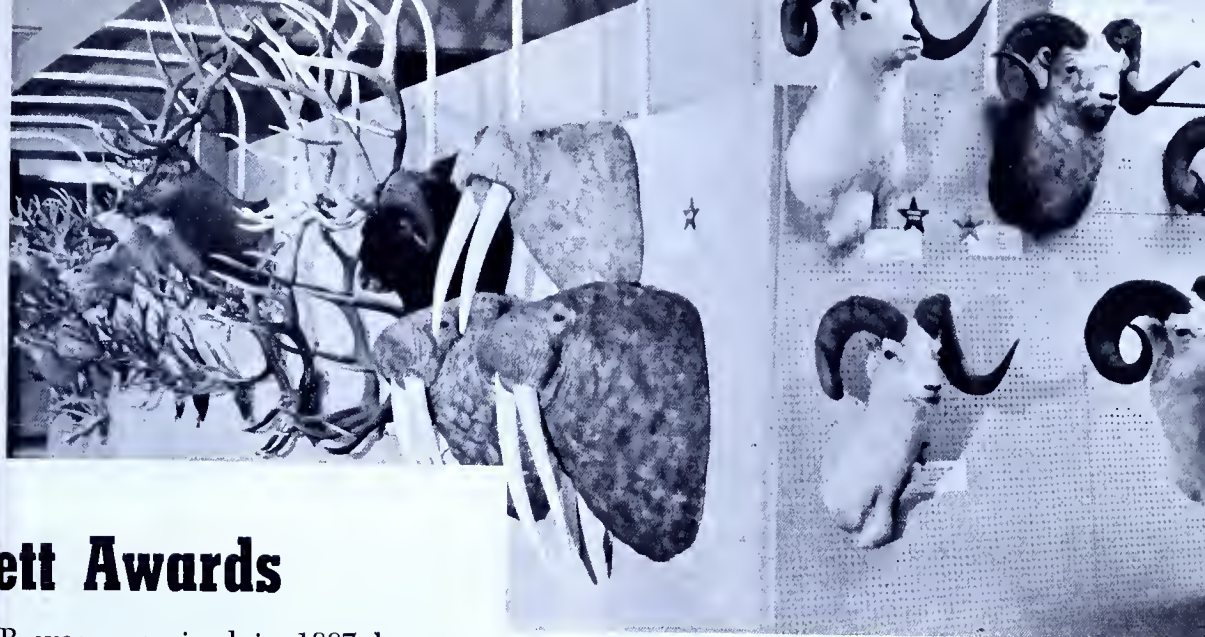
ALASKA-YUKON moose bagged by Josef Welle, of West Germany, scored $249\frac{6}{8}-\frac{1}{8}$ point less than the world record. Below, Sup. George Norris and Executive Director Glenn Bowers discuss 187 $\frac{2}{8}$ -point white-tail taken by D. E. Green. New Virginia, Iowa.



Boone and

THE BOONE AND CROCI Theodore Roosevelt and some of the most manly sport with the rifle . . . and to work for game and . . . ingly encourages sportsmanlike quality rather than the quantitative creation of standards for ranking trophies collected into *Records of North America* and revised periodically. Big Game hunting were established in 1900. trophy winners, and Pennsylvania Carnegie Museum in Pittsburgh. American Big Game Competition commissions were made for the best trophies last five years from the continent. a month-long display, these trophies those who could not visit the museum.





ett Awards

B was organized in 1887 by its main objectives are to "pro-lar-gae game of the wilderness ervation." The club unwaver-hunting and emphasizes the bagged. This attitude led to and data on these were col-Game, first published in 1932 etitions emphasizing selective ns and Awards Dinners honor d in that these are held at the teenth Biennial North Amer-the banquet in May. Awards 2015 entries taken during the even big game classes. During iewed by 36,298 persons. For resent this selection of winners. otos by Leo T. Sarnaki, courtesy of arnegie Museum, and R. D. Parlam



MRS. DONNA LOEWENSTEIN, Bellflower, Calif., took 217 4/8-point Canada moose, above; Robert Knutson, Janesville, Wis., got 405 1/8-point Woodland caribou, left; Alaskan brown bear and grizzly skulls, below. No. 1 scored 30 8/16.





RAY WHITE, Kittanning, Pa., points proudly to his No. 2 desert sheep (180 4/8).

BEST SHEEP TROPHIES, right, from top: Dall (180 6/8), Yukon Territorial Government, owner; Stone (183), John Caputo, NYC; big-horn (188 7/8), Alden Walrath, Portland, Ore.; desert (184 4/8), H. C. Poole, Bainbridge Island, Wash.

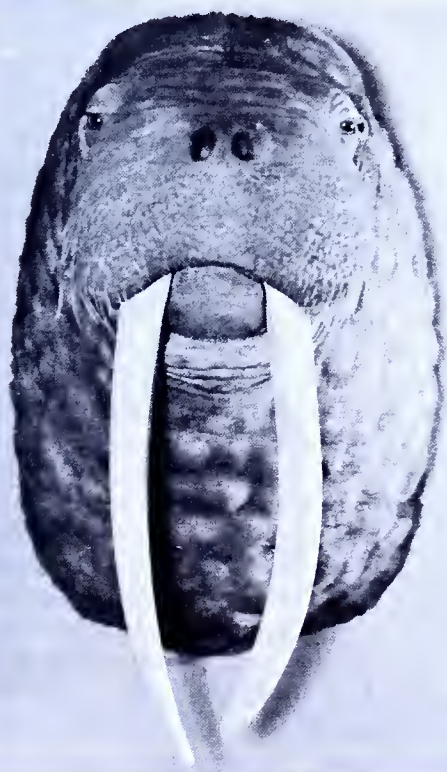
BARREN GROUND CARIBOU, below, taken by Ray Loesche, Phoenix, Ariz., scored 463 6/8 points.





WORLD RECORD nontypical
Coeur d'Alene deer (151 4/8), Tom Ma-
bry, San Leandro, Calif., owner.
Below, nontypical mule deer
(302 4/8) taken by L. H. Hunt-
ington, Soledad, Calif.

WAPITI (395 4/8), above, collected by Wayne
Estep, Butte, Mont.; Pacific walrus, below
(130 4/8), George Landreth, Midland, Texas.
Bottom right, view of moose and caribou tro-
phies.





FIELD NOTES



Fast Learner

Ever hear of a cross between a hamster and a rabbit? Neither did I, but sometimes I wonder. An orphaned cottontail, about two weeks of age, was being cared for by my daughter, Kathy. Within a few days the rabbit's curiosity got too much and he tried to jump out of the box. I told her to find something else to keep him in, and she suggested her old hamster cage, complete with a running wheel. We decided this would be his new home until released. One evening shortly thereafter we heard an awful squeal, and when we ran to investigate we found the rabbit having a good time exercising his legs by running in the oil-lacking wheel. — Land Manager P. A. Hilbert, Cleona.



Frustrating for Whom?

CRAWFORD COUNTY — While tearing out a dam on a beaver damage complaint, Deputy Gray looked up the channel to see the beaver already headed in his direction with a freshly cut limb in his mouth, ready to start plugging the hole.—District Game Protector J. Miller, Meadville.

Farm Fawns

HUNTINGDON COUNTY — The wet spring has certainly been an asset to fawns born in farming areas. Only two persons have told me of injuring fawns with mowers, since the mowing operations began about two weeks later than normally, thereby giving the fawns an opportunity to develop enough to evade the machines.—District Game Protector R. D. Furry, Huntingdon.

Maybe He'll File a Claim

PIKE COUNTY — An out-of-state motorist hit a large black bear on Route 6 near Milford. Damages to the car amounted to over \$300. I was unable to catch up with Mr. Bruin to get an estimate of damages from him.—District Game Protector D. S. McPeck, Jr., Matamoras.

A Place to Play

LUZERNE COUNTY — My family and I had taken a short vacation over the Memorial Day weekend. Upon our return our neighbor told us that during our absence a deer had entered our backyard, run around the children's swing set a few times, leaped the fence and entered another neighbor's yard. What is so unusual about this? I live only five blocks from the center of Wilkes-Barre, population 65,000. Deputy Dick Walton had picked up and released another deer that had been caught in a fence, in the same area, the same day. Maybe they saw my Game Protector sign and thought they would be safe.—District Game Protector C. E. Burkholder, Wilkes-Barre.

We Know How You Feel

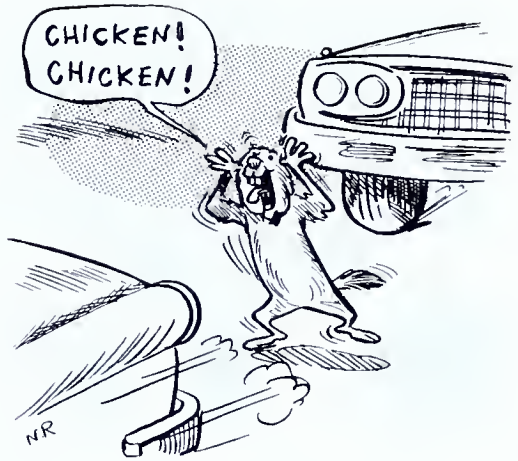
SCHUYLKILL COUNTY — I am tired of seeing cartoons in our news media depicting the average gun owner as a bearded, unkempt slob, cradling a machine gun, silencer-equipped pistols and other illegal weapons in his arms. This characterization might fit criminals, but not the average American gun owner. It has been my privilege to shoot in competition at NRA-sanctioned matches over the past eight years. After firing, you move your equipment behind the firing line and pull pit duty 200 yards or more away from your equipment. You leave several hundred dollars worth of equipment with no more protection than the basic honesty of your fellow competitors, and yet I have never heard of anything being stolen. In golf, bowling, swimming, etc., you either lock up your belongings or take them with you. I wish some of these cartoonists would visit an organized shooting event and get a true picture of sportsmanship and honesty.—District Game Protector L. E. Bittner, Tremont.

Close to Home

JEFFERSON COUNTY — At approximately 6:30 a.m. on June 10, we watched a nice big doe give birth to twin fawns in our backyard.—District Game Protector G. Miller, Sigel.

Sounds Logical

CLARION COUNTY—It is common knowledge that youngsters have quite an imagination, and recently a young lady in the third grade demonstrated this quality quite well. She and several others were trying to determine the correct names for the offspring of certain animals and birds. Having been told that "piglets" would be proper for the young of that species, she immediately decided young turkeys just had to be "gobblers."—District Game Protector D. Brown, Knox.

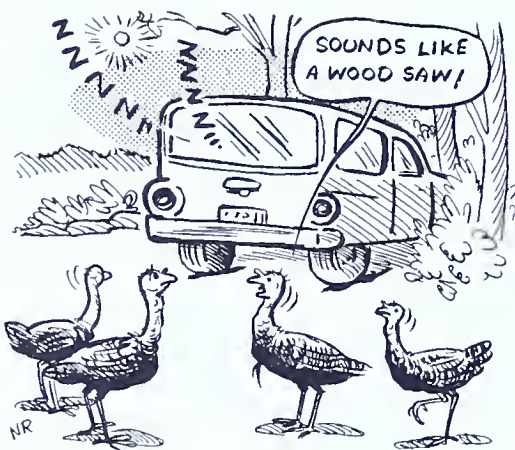


"Chicken" Chuck

Early in the spring a woodchuck on the Bear Creek-White Haven Road got into the habit of playing "chicken" with cars by seeing how close to them he could cross the road. The odds finally caught up with him. Other "chicken" players should profit from his mistake. — Land Manager J. A. Booth, White Haven.

Protective Mother

BUTLER COUNTY—While visiting a local beaver dam one night in June, I witnessed a fine example of the protective instincts displayed by a mother beaver. We were watching a young beaver (hardly bigger than two fists) swimming near us in the ray of our flashlight. He was unafraid of the light cast upon him, and apparently was unaware of our presence. He swam to within a few feet of us. Suddenly out of the blackness came the mother. She swam right up to the youngster and gently caught him with her teeth by the nape of the neck. Just as quietly as she arrived, she turned and swam back into the darkness with the little one. My friend and I agreed that to see such an occurrence was a thrill to be enjoyed probably once in a lifetime.—District Game Protector N. W. Weston, Boyers.



Season Siesta

PERRY COUNTY—Having failed to bag their turkey during the regular season, two Perry County hunters decided to go upstate and try their luck on the last day of the spring gobbler season. They drove up Friday night and slept in their car. They set an alarm clock for 5:00 a.m. and sure enough it rang at that time. One of the fellows reached up and turned it off, thinking to himself that he still had a few minutes. Those few minutes went right up to 10:05 a.m. before they woke up again. Needless to say, they were not very happy about driving 150 miles then sleeping away the last day of the season!—District Game Protector J. I. Sitlinger, Newport.

Busy Time

CUMBERLAND COUNTY—A local groundhog hunter told me that while watching for game he heard a squealing in the tall grass immediately behind him. Looking around, he saw a black snake with a weasel in his grasp. He shot the snake. Immediately, four more weasels appeared, ripping the snake to shreds. He managed to shoot two of the small animals before they disappeared. This is the first report of weasels in this area since I was assigned here eight years ago.—District Game Protector E. F. Utech, Carlisle.

Hard to Please

LUZERNE COUNTY—A resident of Harveys Lake, who owns several cottages there, complained of visits from a bear with two small cubs. One day he left a cottage open for inspection by some future vacationers. When leaving for town he glanced into the woods and saw a mother bear with two cubs running toward the lake. When he returned he noticed tracks of the mother bear leading into the cottage and into the bathroom. From there she went out on the porch and chewed his corn broom, and then she departed. Maybe the bear family had considered a vacation at Harveys Lake, but after snooping around thought that the environment in the woods was easier to maintain.—District Game Protector E. R. Gdosky, Dallas.

Congratulations, John Randolph, Jr.

MIFFLIN COUNTY—The spring turkey season was an absolute necessity for John Richard Randolph, Jr., of Milroy. John needed a turkey to complete the circle for his Triple Trophy Award. He finally connected by bagging his gobbler in Huntingdon County on May 8.—District Game Protector J. D. Moyle, McVeytown.

Dunkin' Does

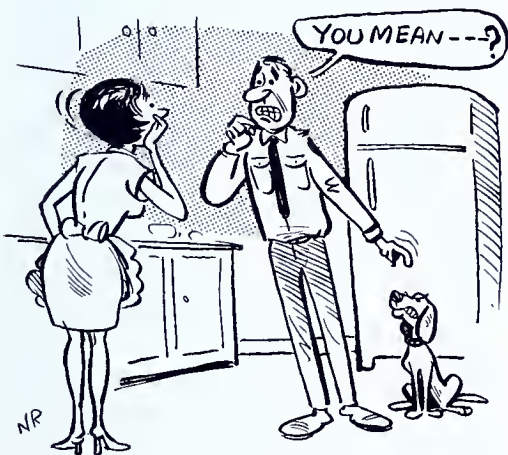
N.W. DIVISION OFFICE—While checking land management development work with Land Manager Overturf in Forest County, we noticed two white-tailed does standing in the middle of Tionesta Creek. They were in water up to their bodies and feeding on plant growth on the creek bottom. I have seen moose feed in this manner but this is the first time either Overturf or myself has seen a white-tail feeding under water. Their heads would stay completely immersed for as long as 20 seconds before coming up with a mouthful of vegetation.—L.M.A. C. M. Schake, Franklin.

The Only Way?

FOREST COUNTY—While apprehending a man for littering, he commented that he didn't think it should be legal for us to hide to catch him. I told him that we had to be just a little sneakier than the people who did these things.—District Game Protector C. Toombs, Tionesta.

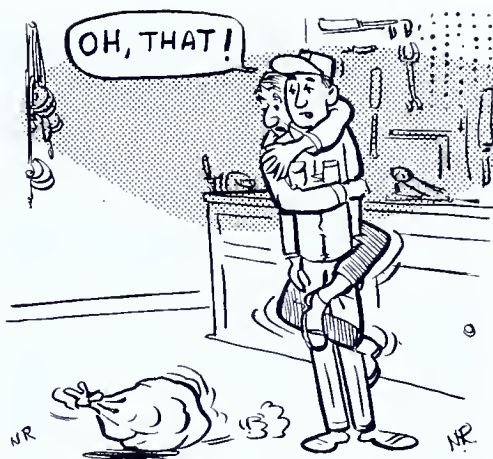
Raucous Roosters

VENANGO COUNTY—During a recent dove count which I took in Clarion and Venango Counties, many ring-necked pheasants were heard. Almost at every stop I would hear one and at one stop I heard four. I would say this area had a good winter carry-over this year.—District Game Protector L. E. Yocum, Oil City.



And Now the Dog's Hungry

FRANKLIN COUNTY—Deputy Tom Hawthorne arrived home after work and found his wife away. Being hungry, he decided to make a sandwich. He cut a slice of bologna which he found in the refrigerator and placed it between two slices of bread. He took a bite, and noticed a funny taste. When his wife arrived home he asked her about the bologna. She burst out laughing and told him it was meat she had removed from a can of food for their dog.—District Game Protector R. E. Schmuck, Greencastle.



So What Else Is New?

ERIE-CRAWFORD COUNTIES—Blaine Frost, a Food and Cover employee, recently picked up a live beaver that had been making a nuisance of himself. He placed the burlap bag containing the beaver in a corner of the building while doing something else, and a few minutes later a drum of oil was delivered. As the delivery man stood talking he saw the bag begin to twitch and move across the floor. "What's in the bag?" he asked. Blaine, not thinking of the beaver, said, "Oh, just some junk." The delivery man's eyes got big as the bag moved across the floor. "Well, that junk is walking right out of here!" he declared.—L.M.O. J. C. Hyde, Townville.

Like Son, Like Father

YORK COUNTY—Recently I had the honor to present Jessie Runkle of Brogueville with his Triple Trophy Award. He got his bear and deer during the past season and his turkey on Friday of the spring gobbler season. This may, to some, seem not too newsworthy, except that his son, Gerald Runkle of Dover, also received the Triple Trophy this past season. This is the first father and son I know of who have gotten this award in one year.—District Game Protector R. L. Yeakel, Red Lion.

Puzzling Plover

ERIE COUNTY—Recently I have seen several upland plover and have had several people call to ask the identity of this bird. It is similar to the killdeer, somewhat larger but with no really distinctive markings. A shore bird, it makes grasslands its preferred habitat. It is often seen on golf courses. The plover was once very near extinction, but protection has helped it recover somewhat, and it sure is nice to see one of our endangered species making a comeback. — District Game Protector R. Meyer, Fairview.



Really Livin'

LAWRENCE COUNTY—Raccoons do not seem to be a problem for some New Castle residents. Others, however, have double trouble during vacation periods. One lady in my neighborhood feeds about a dozen raccoons and all is well as long as she is not away on vacation. Three or four loaves of bread each day, along with cooked chicken backs, furnish ample food for the masked invaders. This lady claims her friends like the bread much better when spread with peanut butter. Also, since she buys day-old bread, it is made more tasty when broken up in warm chicken broth. No wonder people expect "handouts."—District Game Protector C. A. Hooper, Jr., New Castle.

Half the Story

N.W. DIVISION OFFICE—I never thought I would witness the day that so many individuals would be so critical and downright bitter over the ownership, sale and use of firearms. Nor did I ever expect to read and hear so many untruths about firearms and their use. Some of our staunch supporters have withdrawn their support for intelligent and workable laws and regulations. There has been just a token word now and then about the worthwhile contributions to our society by the owner and user of firearms. Only one side of the story is being told—the violent side.—C.I.A. R. D. Parlamen, Franklin.

Light or Dark?

TIOGA COUNTY—Ed Broadfield of Mansfield told me that while traveling on a back road in Liberty Township recently he saw a deer ahead of him that had some kind of cord in its mouth. Every time the deer jerked its head Ed could see something bounce up in the air. Upon getting closer he saw that it was an old toaster that someone had thrown away, and every time the deer jerked on the cord the toaster would come off the ground. Do you think he was looking for a place to plug it in?—District Game Protector R. L. Sinsabaugh, Wellsboro.

Just Friends

ERIE COUNTY—Deputy Game Protector Harold Young built a new home in the country not far from Union City, and he is trying to figure out if he moved in on the wildlife in the area or the other way around. One morning Joan, his wife, found a half-grown cottontail in a bedroom, a skunk in the garage and five deer in the backyard.—District Game Protector E. Simpson, Union City.



CONSERVATION NEWS



Goose Blind Applications Accepted September 1

APPPLICATIONS for hunting from goose blinds at the Pymatuning Waterfowl Area in Crawford County will be accepted from September 1 through October 1, according to the Pennsylvania Game Commission.

Ray M. Sickles, waterfowl management agent, said forty blinds, each accommodating four persons, will be available for the 1968 season.

There will be four shooting days each week of the season, Monday, Wednesday, Friday and Saturday. Sickles said forty blind holders will be selected for each shooting day of the season. Since each blind holder is allowed three guests, 160 hunters can utilize the area each shooting day.

The following regulations apply:

Reservation requests must be made on official application forms and must be submitted to the Pennsylvania Game Commission, Pymatuning Waterfowl Area, R. D. 1, Hartstown, Pa. 16131.

Only one application may be submitted per person.

The applicant's 1968 hunting license number, including the letter, must be listed on the application.

Applications must be postmarked September 1 through October 1; any postmarked earlier or later will be rejected.

A drawing will be held in early October to determine the successful applicants. Only successful applicants will be notified.

Registrations are not transferable. The successful applicant whose name appears on the reservation must present the reservation in person at the Pymatuning Waterfowl Area headquarters (registration building) located on Route 285 between Hartstown and Linesville about four miles north of Hartstown.

A reservation will entitle the applicant to bring not more than three guests with him. Guests will be present and register.

Hunters should arrive at least one hour before shooting time to allow for the issuance of permits; 1968 hunting licenses must be presented at the check station.

All reservations for any one day will be valid only up to one-half hour before shooting time on the specified day.

Shooting hours for the Pymatuning goose blinds are from one-half hour before sunrise until noon prevailing time.

Season dates and bag limits will be established later.

Applications for hunting from the Pymatuning goose blinds are available from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120; any of the six Field Division Offices of the Pennsylvania Game Commission; from any Game Protector; or the Pennsylvania Game Commission, Pymatuning Waterfowl Area, R. D. 1, Hartstown, Pa. 16131.

Still Leaves 2000

Approximately 10,000 of the 12,000 muscles in a wild goose's body are used to control the action of its feathers.

Spotlighting Big Game Outlawed After Midnight

THE SPOTLIGHTING of big game between midnight and sunrise will be illegal in Pennsylvania after September 1, the Game Commission announced.

Governor Raymond P. Shafer has approved legislation which makes it illegal to cast the rays of a spotlight, headlight or other artificial light upon big game animals on a highway, in a field, woodland or forest from midnight prevailing time until sunrise.

"Of course, the law does not apply to a motorist suddenly confronted with a deer darting into the path of his vehicle," Game Commission Law Enforcement Chief James A. Brown said. "It is intended to prevent the deliberate practice of spotlighting big game animals."

Spotlighting of deer is a popular practice in the state, being enjoyed by the non-hunting public as well as sportsmen. The new law will not curb the sport during evening hours; it only curtails the practice after midnight. Public complaints about spotlights being cast into homes and other buildings led to enactment of the legislation.

Another problem brought about by spotlighting is the danger of slow moving vehicles. The driver and occupants of the car become so engrossed in seeing the deer, that they fail to realize the hazard they present to other traffic. Many spotlighters leave the road and enter cultivated fields. When this happens, the landowner sustains costly damage to crops.

PENNSYLVANIA GAME COMMISSION SUMMARY 1968 SEASONS AND BAG LIMITS DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits
	First Day	Last Day		
Doves	Sept. 2	Nov. 9	12	24
† Rails (Sora and Virginia)	Sept. 2	Nov. 9	25*	25*
Gallinules	Sept. 2	Nov. 9	15	30
Wilson's or Jacksnipe	Oct. 1	Nov. 19	8	16
Woodcock	Oct. 12	Dec. 14	5	10

† NO OPEN SEASON—King and Clapper Rails.

* Singly or in the aggregate of species.

SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.

Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (Except on October 26 when the opening hour will be 9 a.m., EDT).

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) NOT REQUIRED TO HUNT DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK. BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES AND PISTOLS ARE PROHIBITED. NO HUNTING ON SUNDAY. ONE FULLY FEATHERED WING MUST REMAIN ATTACHED TO EACH MIGRATORY BIRD (EXCEPT DOVES) WHILE BEING TRANSPORTED.

Busy as a What?

The tiny chipmunk, with a body barely six inches long, can carry and hide more than a bushel of hickory nuts or chestnuts in three days.

CORRECTION

Antlerless deer license allocations in the August **GAME NEWS** were incorrect for six counties. Here are the correct amounts:

County	No. of Licenses
Warren	13,250
Washington	4,350
Wayne	9,250
Westmoreland ..	8,250
Wyoming	5,400
York	4,500

Free Hunting Licenses for State's Servicemen

Pennsylvanians serving full time in the U. S. armed forces will be eligible for free hunting licenses in the state, the Game Commission has announced.

Under legislation signed by Governor Raymond P. Shafer, any resident of the Commonwealth who is in full-time active service with the armed forces of the United States and during the time he is on official military leave, furlough, pass or on medical leave is eligible for a free hunting and trapping license upon application to any county treasurer.

The privilege of obtaining a free hunting license will extend for the duration of the conflict in Vietnam.

The effective date of the legislation is September 1, 1968.

Servicemen on temporary active duty for training will not be eligible for the free licenses.

A serviceman applying to a county treasurer for a free hunting license will be required to furnish his serial number, branch of service, rank, company, battalion, etc., and, in case of leave, official military papers showing that the applicant is on official military leave, furlough, pass or on medical leave.



Samuel J. Kern

Samuel Kern Named Chief

Samuel J. Kern, Food and Cover Section Supervisor, was named to succeed Court Freeburn as Chief, Division of Land Management, following Mr. Freeburn's retirement in June.

Kern, a Penn State forestry graduate, was a petroleum company agent in Towanda for four years and a Pennsylvania Department of Forest and Waters employe for seven years before joining the Game Commission in 1946. While with the Forests and Waters Department he served as district forester in Wellsboro for three years.

Kern was a Game Commission land operations assistant in DuBois, Lock Haven and Avis before joining the Harrisburg Office staff in 1959.

Give

GAME NEWS

To a Friend . . .



HUNTER SAFETY EDUCATION



By John C. Behel

PGC Hunter Safety Coordinator

PENNSYLVANIA STATE UNIVERSITY'S Stone Valley recreation area was the setting for a nationally approved first in an instructional effort for toxophilites (archers, that is!), sponsored by the Pennsylvania State Archery Association.



STUDYING 80-YARD target are "Cookie" Goetz, John Behel, Jim Bailey and Steve Satterlund. Shooting took place during instruction course at Penn State recreational area.

PGC Photo by Wes Bower

Bowmen from 15 states, Canada and Thailand—a cross section of teachers, camp directors, camp counselors, professional archers, Department of Forests and Waters and Game Commission employes, and members of the Pennsylvania State Archers Association—were on hand for a seven-day course in bow handling. Expert and novice bow handlers received intensive instruction through the venture which combined archery and hunter safety. The program's purpose was to show

the best methods of teaching the proper handling of sporting arms.

Noted archery instructors were at work throughout the 56-hour course. They covered all phases of archery, including target and field shooting. Mrs. Pat Baier, who teaches archery in the physical education programs at Beaver College in Glenside and Chestnut Hill College, Philadelphia, and has been in tournament shooting since 1948, presented experienced archers with the know-how of teaching, while Mrs. Julia Bowers covered the fundamentals of archery. Mrs. Bowers is a former physical education instructor of the Lancaster County schools. As winner of two Pennsylvania State Target Championships, the Eastern Women's U. S. Target Championship, and other laurels, she was more than qualified for this assignment.

Bill Bednar, a former national champion and member of the Professional Archers Association, presented a two-day session on advanced archery instruction. It stressed that much preparation is needed in tuning a bow, just as a shooter prepares his rifle or handgun for better shooting.

Assistance to the novice archer was an important part of this first archery school. Expert advice came from many experienced archers who were willing to give of their time and knowledge. Individual instruction would not have been possible without this additional assistance.

Another outstanding Pennsylvania archery expert provided advice at Tent No. 4, better known as "Cookie's Pro Shop." Here, Marvin "Cookie" Goetz, Jr., of Greenville taught a steady stream of archers how to serve



TAKING PART IN THE INSTRUCTION PROGRAM were: Dr. Fred Coombs, Bill Bednar, Clayton Shenk, Stan Williams, Pat Baier, Dick Bleakley, Julia Bowers and Marvin Goetz, Jr.

a bowstring, locate the nocking point, and other fine points in tuning a bow. All the tools of the trade were provided by Goetz, a noted tournament archer who has won many regional and state archery awards.

Archers from 16 to 70 years of age attended this NAA Archery Instructors Program, the first of its type. It was organized through the cooperation of Clayton B. Shenk, Executive Secretary of the Pennsylvania State Archery Association, and Dr. Fred M. Coombs,

Chairman of Recreation and Parks at Pennsylvania State University.

The facilities at the university's Stone Valley recreation area were excellent.

Directed by Dr. Coombs, approximately 100 archers and camp chapters attended the full 7-day course, with evening sessions by visiting personnel.

Representing the Pennsylvania State Archery Association was Dick Bleakley, president, and Stanley Bleakley, vice-president, Bloomsburg.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.





HAWKS

*across
Pennsylvania*

By Ron Jenkins

The Cooper's Hawk

(*Accipiter cooperii*)

THIS crow-sized member of the *Accipiters* (short-winged forest hawks) is a common resident of Pennsylvania during the warmer months, and yet is probably seen by fewer people than any other bird. Considering his size and the growing number of bird watchers, you might think the opposite, but the Cooper has such a secretive way of living that one could spend days in the same patch of woods with him and never know it.

Often, the best way to detect his presence is to observe the ground, and look for feathers from bird kills. A "butcher block" is usually present; that is, a stump or log where the parent birds will pluck their prey before taking it to the nest. Or be in the woods before sunrise and listen for his cackling call. This might be the only time you will hear the Cooper's hawk, and then usually only during the nesting season.

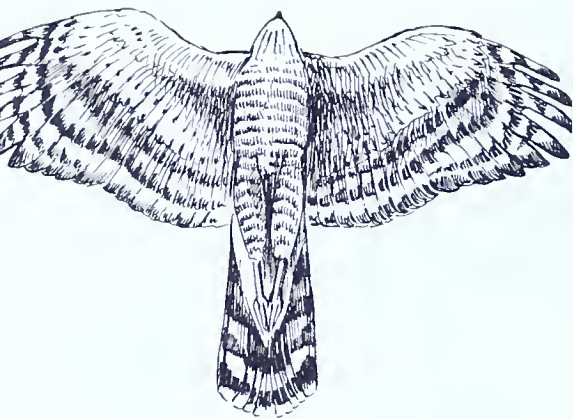
Cooper's hawks, known for their boldness, seldom have a good character witness. They have been termed savage and bloodthirsty. Actually, the Cooper is only doing his natural job as a useful tool which helps keep his prey from multiplying beyond normal numbers. He is quite good at removing the injured, the sick, and the unwary, so that only the very best individuals remain. This is one method nature has for improving itself.

Young Cooper's hawks are brown above with white underparts, streaked heavily with brown. Their eyes are yellow until adult plumage is attained, when the iris turns a deep red-orange. Adult Coopers are blue-gray above with white underparts heavily barred with reddish brown. Their short rounded wings have deeply notched and slotted primary feathers, which aid in rapid acceleration and control as they hunt through the brushy places among the trees. A rather long tail gives the Cooper turning and maneuvering agility in dense cover.

When hunting, Cooper's hawks often travel through the trees, using their long legs to hop among the branches. Flight is usually swift, with alternate flapping and sailing. When after prey, the Cooper closes with a swift rush, and tries to keep some obstacle between him and his victim until the very last moment, using the element of surprise as his best offense.

The nest of a Cooper's hawk is a flat-topped structure of sticks placed in a large fork of a hardwood, or close to the trunk of pine trees. The nest may be occupied for several seasons. Three to five pale bluish or greenish eggs are laid in the shallow nest cup which is usually lined with fresh bark.

When partially feathered, young Cooper's hawks are often found away



ADULT Cooper's hawk, above, in flight. Large illustration on page 46 is of an immature Cooper's hawk on "butcher block" where prey is plucked.

from the nest, walking out on branches and hopping about where the parents feed them.

Coopers seldom soar or fly in the open except during the pre-nesting display. Most of the hawks seen soaring on sunny days are the larger buteos which habitually soar and hunt from open perches.

The best place to observe the Cooper's hawk is on the flyways during the fall migration where they sometimes appear in great numbers.

Once you have learned to appreciate the Cooper's dashing flight and his fearless attitude, you'll feel lucky to catch a glimpse of him as he passes by.

\$673,651 in Pittman-Robertson Funds

Pennsylvania has received a preliminary allotment of \$673,651.52 in Pittman-Robertson Wildlife Restoration and Research Funds for the 1968-69 fiscal year, according to E. G. Musser, P-R Coordinator for the Pennsylvania Game Commission.

The initial allotment figure is a new record, Musser said, \$24,995.54 more than last year's apportionment. An additional allotment of P-R funds will be made to the state this fall. The federal funds will be used for the Game Commission's wildlife habitat development and research programs.

Nationwide, \$17,400,000 will be distributed, \$900,000 more than was available initially last year. Each state's apportionment is based on the number of paid hunting license holders and land area.

Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior, Bureau of Sport Fisheries and Wildlife. Funds come from excise taxes levied on sporting arms and ammunition.

Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost.

Funds for Bear Damage Claims Increased

Funds available for damage caused by bears in Pennsylvania will be increased from \$5,000 to \$7,500 per year beginning September 1, the Game Commission recently announced.

During the 1966-67 fiscal year, claims totaled approximately \$1,000 more than was allocated for this expenditure. Value of property damaged has increased in recent years so it was necessary to seek legislative action to increase the annual allocation.

The Game Commission may pay for damage done to livestock or poultry or for protection to or damage done to bees or bee keeping equipment by bears upon lands open to public hunting after a thorough investigation reveals the damage was actually caused by bears.

Care of a Bow

By Keith C. Schuyler

Photos by the Author



FIG. 1—Step-through method of stringing bow came into use following the popularity growth of recurve bows.

TIME WAS when the average American bow was treated like an old club. This was mainly because the average bow was an old club. Even the best bow used by the sometimes archer was little more than a piece of wood shaved down on each end so that it would bend better. Not so today.

The modern bow is an intricately designed, beautifully finished, laminated composite of the best woods available and Fiberglas. It embodies the best materials and engineering that money can buy. As a result, today's bows run up to \$300 in price—and they're worth it.

In fact, the price of a good bow today is quite comparable with the price of a good rifle. It is true that you can pay much more for a gun, but the extra cost goes into fancy

wood and checkering, inlaid gold and expensive engraving. The basic mechanisms and the barrel are little different than in the standard grade guns. If it hasn't already been done, some bow manufacturer eventually is going to start inlaying gold and silver or precious stones for snob appeal and to run the price up beyond the reach of us peasants.

Meanwhile, back at the shooting range most of us are using bows that run from a low of about \$60 for a hunting arm up to the more fancy target bows.

There are two basic reasons to give top care to whatever bow you are using. First, if you want the manufacturer's guarantee to stand, you had

best keep the tips away from car trunk lids, rock piles and magnifying glasses. Although this is a practical consideration from the standpoint of your pocketbook, there is a much more involved reason for taking good care of your bow. If you have one that shoots well for you, it is like a good dog, a comfortable pair of boots or an old pipe. You might find one prettier, stronger or more expensive. But if it isn't right for you, it doesn't mean a thing.

Today we have come to regard a good bow as something more than just an instrument to fling arrows. Careless use of one can cause it to break like an old friendship.

The old self bows of one piece *were* clubs by comparison with today's models. Nevertheless, they could not take the abuse which today's

FIG. 2—Bow stringer being used here is one of a number that are proving popular. They eliminate injury to the archer or the bow.



counterpart can stand. All your hopes were wrapped up in one piece of wood with one set of grain that either was or was not good. A single staff of wood is very susceptible to vagaries of the weather and temperatures. Old hickory bows, for instance, were quite apt to snap on a cold morning. Osage orange and lemon wood were just as apt to take a set to the grain if subjected to high temperatures or prolonged stringing. This is not to say that the laminated lovelies of today won't do the same thing under extreme exposures, but they are much less likely to do so. Normal care and precautions will prevent problems.

For example, I know of an instance in which an excellent bow warped badly out of shape when it was left lying in a station wagon where the window glass concentrated the sun's rays upon it. Although the excellent glue which holds together the laminations on a bow will withstand much, and the wider limbs in the re-curve bows of today inhibit the effects of sun and frost, bows are not indestructible. It is still recommended that you flex a hunting bow gradually on a very cold morning. This is much more a consideration than it once was, since the January hunting season is apt to find archers out in sub-zero weather on occasion.

Nine-Tenths Broken

It is sometimes said that a bow is nine-tenths broken when it is pulled to full draw. By the same token, probably nine-tenths of the bows that are broken receive their *initial* damage when being strung. There are a number of ways to string a bow properly, but there is only one way which eliminates most of the human error which causes damage. It involves use of a fairly new gadget on the market known as a bow stringer.

Bow stringers come in many types. The latest is a contraption of aluminum which permits even a lightweight female to string a fairly heavy

bow with ease and safety. There are bow stringers which fasten to the bumper of a car, the side of a building or a tree. All work. However, the simplest bow stringer is the type illustrated here which consists of an auxiliary string of heavy weight used to flex the bow. Then it is a simple matter to apply the regular string.

When a bow quiver is being used, it is next to impossible to string a bow without removing the quiver. Since some bow quivers are taped or bolted on, this becomes an important consideration. Even those which snap on, such as the quiver in Fig. 2, tend to loosen if placed on and taken off the bow too much. Hence, use of a stringer will lessen this problem.

Back in the old days, when one end of the string was knotted to get proper fistmele, we used the method illustrated in Fig. 4. This is a bit awkward with modern recurve bows although it can still be done successfully with the lighter ones. It is very difficult for the average archer to string a heavy recurve bow in this manner. With any bow, one of the greatest hazards is in cracking the tip from contact with the floor or ground. The tip must be inserted in the arch of the instep to protect it. Unless the upper limb is kept away from the face, there is always a possibility of it escaping to come back and injure you. A number of archers have been badly hurt this way, and there is at least one reported instance of an archer losing an eye.

The advent of recurve bows brought into popularity the step-through method illustrated in Fig. 1. This system makes it possible to string the more powerful bows with



FIG. 3—A stout peg or limb should be used when hanging a bow by the string to avoid damage whether stored briefly or for long intervals.

comparative ease. The lower limb is hooked over the foot or the ankle, the archer steps between the string and the bow with the other and then flexes the bow by applying pressure with his thigh or buttocks while bringing the top limb into position with his hand. If a sufficient loop has been provided to allow the string to slide down over the limb, the string can simply be slid into position. This is preferable since it prevents the string from unwinding and changing the fistmele. If the loop is not sufficiently large for this, it can be placed in position by sliding over the tip of the bow into the nock.

The hazard to the archer is minimal using this system, but there is danger to the bow unless it is done exactly right. I personally raise my left foot so that the curve fits snugly around my ankle, and then I try to keep the bow in as natural a position as possible when exerting pressure to attach the string. If this is not done, a twist is caused in the lower limb which can crack the glass fibers to cause an

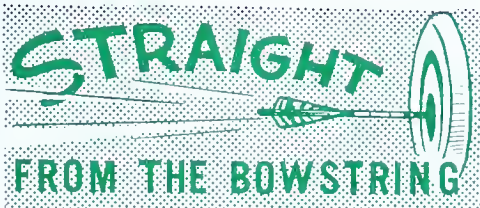




FIG. 4—This push-pull method of stringing was popular and practical with the old-style, straight self bows.

instant or a later breakdown. A crude comparison can be made by holding a cheap yardstick close to the end with one hand and then twisting the longer end with the other. Something must give.

Since the bow stringer is not expensive, and one can be carried around in the pocket, its use is highly recommended. At least one archery shop in this state gives a bow stringer with each bow. The proprietor tells his customers not to bring any bows back that have been broken unless the bow stringer is used each time the string is placed into position.

Many bow manufacturers caution against leaving adhesive tape on the bow for long periods of time. Some void their guarantees if any tape is used because of the possibility that removing the tape will cause some of

the glass fibers to separate. If you plan to cover the beautiful finish of your bow, as I do for hunting, it is well to apply a liberal coat of high grade furniture wax beforehand. This will prevent the tape from biting too deeply into the finish, and you will end up with a loose cover for the bow rather than a tight envelope. This is all to the good, since it will have less tendency to inhibit the natural cast of the bow itself.

Wax Preserves

Target bows which are never used for hunting should have an occasional application of good furniture polish to preserve the finish and to keep out dampness.

One of the simplest gadgets to help preserve your bow is a string keeper as illustrated in Fig. 5. This rubber gadget, which fits like a thumb stall, serves two purposes. It will keep your string in place on the bottom limb when you are stringing the bow, lessening possible personal injury or damage to the bow. It also protects the end of the bottom limb when using the upright stringing method. Too, it will keep away dirt and dampness while protecting the tip from abrasion when it is rested against the ground. A rubber band will serve to keep the string in place, but it will not protect the bow tip.

Although most damage occurs to a bow on the target range or in the field, a more insidious type of damage can result from improper storage. Whether a bow is hung in a closet for temporary storage at home or is hooked over a limb in the woods, some thought should be given to how it is done. Avoid nails, narrow hooks or anything which can become caught between the string and the wood if the bow is strung. Try to choose a fairly stout limb or wooden peg. The danger of damage is in removing the bow since the hook, whatever it might be, can mar the finish of the bow or damage the string.



FIG. 5—String keeper, a rubber sleeve which fits over end of bow, also protects the tip from damage.



FIG. 6—Best way to store bows is in the unstrung position, lying flat on two supports of soft material.

I once asked a bow manufacturer his opinion about leaving a bow strung for long periods of time. He informed me that he frequently kept his bow strung for as long as a week when on a hunting trip. Certainly, few would recommend keeping a bow strung at all times. If there is any tendency at all to warp, this will emphasize any minute imperfections. And it is certain to reduce the inherent strength of the limbs over a period of time.

In storage, a bow should be hung from a peg, whether strung or unstrung, or it should be laid flat against a protective surface such as felt as shown in Fig. 6. The *give* of any soft surface such as this tends to

spread the weight out over a greater area and reduces the possibility of either marring the bow's finish or causing imperceptible damage to the limb itself.

Today's finely constructed bows will give long and faithful service if given proper treatment. Those who do not bestow upon their bows the respect and affection to which they are entitled risk a small personal disaster at some distant date. It might be the last gold needed to win the tournament, or it might be the chance of a lifetime at a 10-point buck.

Those who maltreat their bows might be repaid in kind at a time when the chips are down. Can you afford to have that happen?

All Part of the Cycle

Powerful acids secreted by lichens break up rocks, thus creating soil for other plants.



By Les Rountree

PART OF THE fun in planning a camping trip or weekend excursion comes from the making of a list. The food always winds up being the longest part of the list, followed by clothing, bedding, cooking utensils and finally the incidentals. What are the incidentals? Well, they are probably just about the most important gear that you'll pack. Strange thing is, these incidentals are frequently not on any camping list. It's just assumed that these items will be with you, therefore, they are often not in evidence when the entourage arrives in the boondocks.

A small ax or hatchet is a good example. If you intend to build a fire and the campground operator has failed to provide firewood, some sort of cutting instrument is a very handy thing to have. The tent camper should never leave this item at home. He should buy one of the square-ended

belt ax models or the Hudson Bay short ax. Even if he doesn't intend to cut anything, the square end will be just the ticket for driving tent pegs or any other use that requires a hammer. Just remember to keep it in the leather case when not in use. If you're a four-wheel drive vehicle owner and frequent the back roads, you should have a small ax with you at all times. It's good insurance when you're on a one-way dirt road and a windfall tree blocks the way.

A growing number of campers are including one of the lightweight Swedish style bow saws on their "extra" list. It's a bit more difficult to pack unless you knock it down each time, but for fast cutting on wood up to six inches in diameter it'll beat the ax every time.

Next on the important incidental list is a roll of paper toweling. Some campers, particularly the female vari-

ety, will insist that this should have been the number one priority item. At the rate I've been using paper towels during the past few years, I wonder how I got along without them before. They're great, of course, for drying dishes and general cleaning up, but some of the newer types are rugged enough to serve as dish cloths, pot holders (doubled a few times) and even emergency socks. I know about the latter use, because I've tried it. Toweling has long been the cook's friend as an easy way to drain bacon, fish and other fried foods. In a pinch, they can also serve as an emergency handkerchief or bandage. When traveling with the youngsters in the car and it's frozen custard time—you'll really appreciate a roll of paper toweling. Many traditional campers balk at the thought of using paper dinnerware—that is, plates and cups—but if you're serving a large number of little ones in your outdoor adventures they sure do come in handy. Throw them in the trash barrel or burn them up after the meal is over and a lot of dishwashing time will be saved. Naturally when the camp is a stag setup you can loudly proclaim that you never use paper plates and stick with the tried and true tin pie plate and the tin cup that burns your lip.

You experienced campers will think it most unusual for anyone to not have a first aid kit packed among their camping gear. I made a spot check at a campground in the Poconos last year and discovered that out of 18 camp setups only four had an honest to goodness first aid kit. A few had a box of small adhesive bandages, but that was about it. I consider a first aid kit a must for family campers. You



can count on the youngsters banging themselves up a bit and possibly a burn or two, and while I hate to be a cryer of gloom there is always the chance of something a bit more serious happening. A few large pressure bandages should be part of every first aid kit.



ALL CAMPERS should have a weather-proof first aid kit. They can be bought or you can make up one of your own.

Many good prepared kits are on the market, and then there are some not so good. If you're in doubt as to quality and contents of a ready made kit, ask your family physician or a first aid instructor. You can, of course, put a basic kit together yourself. Many refinements are possible, but in my opinion a good traveling kit should contain a reliable antiseptic, some adhesive bandages (assorted sizes), a roll of two-inch gauze, a roll of adhesive tape, a four-inch and a six-inch pressure bandage, some ammonia inhalants and some burn ointment. A box of aspirin tablets is also advisable.

Another useful item—which really can't be called a necessity, at least it isn't by a lot of modern campers—is the cast-iron skillet. But to camp out without a 12- or 14-inch cast-iron skillet would, to me, seem like going

hunting without a license. It can be done—but it just ain't legal. In fact, I have on several occasions lugged that heavy thing for miles without ever warming it. But leave it at home? Never. You might say it's my security blanket.

You can fry, broil, braise, bake, sear, stew and fricassee with it and, when you're through, all dishes can be washed in it! It's possible to cook for six people for a week, varying the menu each day, and use no other pot or pan. There are some dishes that cannot be prepared as well in any other container. Chili con carne, for example, is extra special when simmered in a cast-iron pan over a wood fire. All sorts of meat stews and slow fried chicken are at their best when cooked this way, and Swiss steak, well, there just isn't any other way to fix it.

There is also the possibility that a cast-iron skillet might be put to non-cooking uses. Interesting ones. For instance, "Lump" Sturgis, a Canadian

LIGHTWEIGHT Hudson Bay ax is just right for driving tent stakes as well as general chopping use around camp.



ARMY SURPLUS gasoline stove serves well for emergency cooking. Container serves as two cooking pots.

back-country personality, was once serving as cook at a New Brunswick logging camp. Lump was whipping up a batch of his famous sinker biscuits one day when the fragrance of his endeavors attracted a rather large black bear. Now Lump didn't see or hear the bear coming, so you can imagine his surprise when he looked up from his cooking chores and found himself nose to nose with the intruder.

Since the kitchen was nothing more than a stove and a table under the pines, there was plenty of room for movement. Lump started to run, but when he turned to check on his pursuer he discovered that the bear was paying him no mind. The shaggy nose was buried in the bowl of biscuit batter. Lump had worked a long time on those biscuits and the thought of them being eaten by a bear brought back his courage. Returning to the scene he grabbed the first weapon available, which happened to be a 14-inch cast-iron skillet. Since the bear still had its head in the large mixing bowl, it was Lump's turn to do the surprising. He brought the skillet down on the bear's head with all the force he could muster and the bear was laid out cold! The blow might have killed an ordinary size bear, but as we said this was a big one. He regained his composure after a few minutes and weaved off into the bushes. Lump's kitchen was bothered no more. You probably won't need an iron skillet for such a pur-

pose, but it is a handy thing to have along.

Aluminum Foil

Aluminum foil, since its introduction, has captured the imagination of cooks, campers and outdoor writers across the nation. For a time, every housewife thought she had discovered it. Husbands soon were conditioned to seeing every imaginable kind of foil-wrapped food carried proudly to the table. Some young bridegrooms started to believe that all vegetables came with silver skins. It's true, you can cook just about anything in foil and it all tastes good, especially potatoes. Some campers, particularly those who like to build their own cooking fires, lean heavily on aluminum foil. It certainly saves on cooking utensils. What camper or outdoorsman worth his salt doesn't know that you can boil water in a hand crafted pan made from aluminum foil? For this kind of trick you should always buy the heavyweight foil. The light stuff is okay for wrapping potatoes at home or for covering the drip tray in the oven broiler, but when you're poking stuff underneath the coals of an outdoor fire or frying on top of an iron grill, you'll have better luck with the heavier stuff. I didn't intend to get into the cooking business with this month's offering, but here is one tip that I just can't resist passing on. When you cook with foil and you're sealing the meat or vegetable up tight, be sure to do all seasoning *before* you seal it. Everything will taste better and the aroma is stupefying when the foil is split open.

Got a Light, Pal?

Practically every personal car has a flashlight in it—or does it? Have you looked lately? Nothing can upset the beginning of a camping trip more than a late arrival at the campground and then discovering that a flashlight is among those items not present. Or even worse, you have a flashlight (it

was in the glove compartment) and it doesn't work. Maybe I'm a little nuts about them, but a camping excursion should have at least three flashlights with a change of batteries for each. Two of these lights can be the small two-cell jobs, but one should be a large multi-cell job or one of the efficient rechargeable models available today. These lights, the battery job or the recharge style, come in compact designs that are a far cry from the old-fashioned six- and eight-cell monsters that used to be standard. Those long clubs were good lights, but just about as handy as a pair of skis in a duck blind. They wouldn't set, sit, lie or lay on anything, anyplace. The modern lights are small and rather boxy and will repose in an upright position almost anywhere. One new light that I especially like is a rechargeable number with a three-way switch that allows the user to select a beam, a red flasher signal or both. A very practical light for any vehicle owner.

Eventually, every camper will equip himself with a really good metal or plastic cooler or ice chest. But until he does, he finds himself buying those

PLASTIC FOAM cooler doesn't usually last long, but is inexpensive and keeps ice well.



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plastic foam specials. They are inexpensive, but easy to break. Practically everyone goes through ten or twelve of these until he decides to buy an unbreakable one. This is a wise move economically, but from a utilitarian standpoint, the light foam unit seems to keep contents cooler for longer periods than do the more elaborate metal containers. I have been assured by several manufacturers of expensive units that this is not so. Perhaps . . . but try it yourself. Dump an equal amount of ice into one of the "cut rate" foam coolers and into one of the better known brand name metal shell coolers and see which one holds the ice longest. The point of all this rambling about coolers is to encourage you to pick up one of the foam models if you forget your fancy one. If you feel a little unprofessional with it, don't worry, your ice will probably last longer.

Talking about foam coolers brought

to mind another small item that campers should consider. The only way I know to repair a cracked foam cooler is with epoxy glue. The two-part kind of epoxy, that which contains the resin and the hardener in separate tubes. It's easily mixed and will hold just about anything to anything. Takes awhile (12 hours) for it to set, but when it does it's really tough!

Auxiliary Cooker

Another emergency piece of gear that all campers should consider is an auxiliary cooking unit. If you like to cook on an open fire, as I do, there will be times that dry wood is nonexistent. It's too miserable to break out the two- or three-burner camp stove, so what do you do? Why you just unbend the one-burner bottled gas or gasoline-burning Army surplus outfit and cook away. Several of these are on the market today, ranging from an imported LP model that sells for \$20 to a surplus special that goes for about \$5. They also work fine for hurry-up hot lunches while traveling, making it unnecessary to unpack the larger gear.

Good Old Days?

Back in the old days of camping, when anyone who spent a night outside was considered a bit soft in the dome, the gear a camper carried was simply make-do equipment borrowed from the bed or kitchen. Those historical outdoorsmen like Dan'l Boone, Kit Carson and others who have been revered in song and story hit the trail with some sorry gear indeed. Unless you are determined to be uncomfortable, why not take advantage of the very worthwhile extras that are available to the modern camper. Make a list (this is a fun thing to do anytime) and decide what you might need for next summer or that last fling this fall. Remember, this is the end of the summer season for most camping equipment retailers and it's bargain time, so stock up on the things you need.



BREAKING CLAY TARGETS is fine way to gain familiarity with gun.

In the Hunter/Gun Combination . . .

Familiarity Breeds Perfection

By Don Lewis

Photos by Helen Lewis

WHEN I PUSHED my way up through the last cluster of grapevines, I was really winded. The long hard climb had found me out of condition. I sat on a log and wiped the sweat from my forehead even though the temperature couldn't have been above 20 degrees. My destination was Swiker's Hollow, and I had been planning this hunt ever since the closing day of last season. The fresh snow of the night before made visibility good, and this was the kind of a day I had dreamed about all summer.

Still hoping to flush a grouse or hit a rabbit track, I kept easing my way to the ridge overlooking the Swiker homestead. Long abandoned, it was an ideal place for small game. The old

road leading back to it had been removed by strip mining, and it required about an hour's walk to get to it. But when I topped the hill my heart sank. Another hunter was zigzagging around the remains of the barn. Apparently, he had dreamed of hunting in Swiker's Hollow, too. I was really let down, and I was disgusted for not getting there earlier. There was nothing left for me to do except pull up a log and watch.

The man below was attempting to figure out a set of rabbit tracks. I considered offering some help, but I forgot all about it when the hunter began easing little by little toward some brush by the barn's foundation; he had spied the rabbit. Suddenly, the



WHAT YOU LEARN about your rifle during the summer can make the difference in December, as gun writer's son proves with fine buck.

rabbit belted out past him and headed for cover.

From my vantage point, I had a clear view of the fleeing bunny, and I even saw the snow kick up behind it before I heard the first shot. It turned a complete somersault before the second shot reached my ears. It sounded as if the man had pulled both triggers on a double barrel. It was mighty fast and darned good shooting.

"That was a nice shot you made," I told him as I introduced myself. "I had a perfect spot to watch from. You really poured that second shot out in a hurry."

"Had to rush it some," he replied. "Another jump and he'd a been in the brush."

As he stuffed the rabbit into his coat, my gaze fell upon his gun. It took several seconds for me to recognize something highly unusual.

"Is that your shotgun?" I asked rather stupidly, as if there were shotguns scattered all through the woods.

"Yep, that's Ol' Poison," he informed me as he picked it up.

"But, that's a single barrrel, and you fired those two shots faster than most fellows could with a pump gun."

"Reckon I did rattle 'em out pretty lively. There's times when a man has to hurry."

"How'd you get so good with it?"

"Ain't used nuthin' else since the day I started to hunt. Guess this must be about thirty-five seasons for me and Ol' Poison. I never wanted another gun. Back then, I couldn't afford anything else, so I just made up my mind I'd learn to use the single shot as fast as a repeater."

"You sure can rattle the shots off," I remarked. "That's a heck of a name for a shotgun."

"First time I ever took it to the woods, I got covered with oak poison and darned near died. I got my limit of squirrels, and it only seemed fitting to give the gun a name that suited it."

"Mind if I hunt with you a couple of hours? I'm not trying to horn in on you, I just like the way you handled that single barrel."

"Fine with me. I never was much for hunting alone."

Good Shot

He suggested we hunt in the hollow awhile and then go over to his woods about a mile away where we might get a grouse or two.

We put out seven rabbits. I managed to roll two, and he shot three. He was a good shot, and I didn't get another opportunity to see him shoot the second shell from the old single shot. When we had no luck on the grouse attempt, he invited me to have lunch with him. I was glad he asked. For one thing, I was hungry, and I also wanted to see him fire Ol' Poison.

When we started through his apple orchard, I asked him if he would mind showing me how he fired the single shot so quickly. I offered to furnish the shells, and he agreed. Pointing to a stump 30 yards away, he brought the gun to his shoulder and fired. He carried the second shell in his left hand, and when the gun cracked he slammed the new round into the chamber almost at the instant the automatic

ejector tossed out the empty. He whammed both loads into the stump with unbelievable speed. He did it a second time at my request. This man was one in a thousand.

On the long drive home, I kept thinking about some of the things this man had told me. He had applied himself to his gunning problem. He was the first man in his community to own a shotshell loading press. He loaded and shot hundreds of rounds just for practice. He rigged up a device to throw tin cans into the air, and owning his own farm allowed him to regulate his work so that he did some hunting every day of the season. Crows in the summer and foxes in the winter kept him in top condition. All in all, he was a dedicated shotgun shooter.

Unfortunately, most of us are not that enthusiastic. We don't take the time to practice and acquaint ourselves with our guns. This shows up in our shooting. Each hunter owes it to himself to gain familiarity with his equipment so that when the first day rolls around he won't be caught in the field with a gun that feels as uncomfortable as a pair of too-small boots.

The man with the single shot went all out to learn how to use it; it paid off handsomely for him. However, it's not necessary to go to those extremes to learn to handle your gun adeptly. Many simple routines which you can improvise will definitely improve your marksmanship. And surprisingly, they won't take much of your time and they won't bankrupt you.

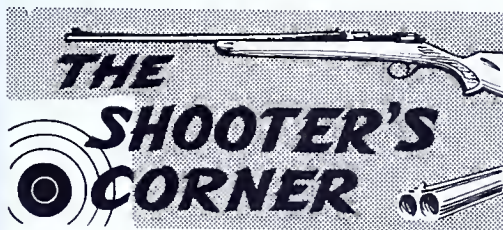
Most people believe that becoming a good shot is merely learning how to aim precisely. This is not the only thing to consider. I shoot all rifles fairly well from my benchrest, yet I



PATTERN BOARD shows how a smooth-bore handles various loads, lets you pick the one that'll handle specific game best.

know that some of them wouldn't be suitable for me in the field. On the benchrest, I steady them on sandbags and get off a smooth well-aimed shot. This doesn't indicate that I could shoot the rifle as well at a standing buck 250 yards away. At the bench, I adjust myself to fit each rifle, but that would not be possible under normal hunting conditions. Also, at the bench time is not important, but in the field several seconds may spell the difference between getting a shot or not. The firearm and the hunter must be compatible. Whether it is a rifle or a shotgun, it must suit the man who is using it. I know half a dozen cases where a deer was missed simply because the eye relief of the scope had not been set for the man using the rifle. The rifle had sufficient power, the scope was zeroed in, but the small matter of incorrect eye relief caused him to fail. Instead of these fellows coming to me *after* they had blundered, it would have been far wiser to try a few rounds before leaving for camp.

It's no secret that there are thousands of hunters in the deer woods the first day who have not recently—if ever—fired the rifle they are carrying. Some years back, I was stopped by a



hunter who wanted a match. When his rifle swung under my nose, I noticed that his safety was in the firing position. I quickly pointed this out to him, thinking he had inadvertently forgotten to check it after loading. This was not the case; he admitted he didn't know which way the safety worked. I've often wondered why he hadn't tried it with the rifle unloaded. Not many hunters are guilty of a trick like this, but it helps point out that a number of them are not fully familiar with the guns they are using.

Good shooting is a composite of many things. The grouse hunter needs fast reflexes and follow through; the rabbit hunter should learn to wait until his game is out where the shot string has a chance to open up a bit; the big game hunter must understand trajectory, his sighting arrangement, and his rifle's operating mechanism. Aiming dead-eyed down the sights is not the only thing that contributes to success.

The idea of stashing the guns away after the season and not touching them again until the following fall is the first step toward failure. The long months between seasons erase all the skill the hunter gained during the previous season. When he does uncase

SAVAGE COMBINATION GUN is at home on fur or feathers. Constant use makes "one-gun hunter" deadly.



his trusty gun the night before the season opens, it will feel ungainly and awkward. How else could it feel? The truth of it is, it won't feel any different in the morning, and when the opportunity to shoot comes, it's likely to result in a miss. The hunter will know right then how much out of practice he is. The mere matter of two boxes of shells and a few evenings spent practicing probably would have changed the entire picture.

Clays Best

Although there are many ways of practicing with the shotgun, I believe shooting at clay pigeons is the most effective. If a local trap or skeet range is not available, a hand-throwing device can be purchased for less than \$5. Clay pigeons cost a couple of cents apiece, and if they're thrown over pine trees or a field that is thick with grass, the ones that are missed stand a good chance of not breaking. A small mechanical trap can be purchased for about \$25, and this will put clay birds out in any direction or elevation desired. Such shooting is not beyond the means of today's worker, and he won't have to miss a mortgage payment to have his own trap range.

Start by throwing birds directly away from you. These are the easiest to hit, and in an evening you will develop a sight picture that will get most of the birds. When straightaways become easy, add a little zest to the shooting by having the birds sent out at unknown angles. For awhile, you'll see a good many sailing off untouched.

The real test of skill comes when you go after fast, crossing clays. Your score might drop, but keep in mind that you wouldn't have done any better on a sailing ringneck. When you get the hang of swinging with the flying target and not stopping the barrel when you shoot, you'll have increased your prowess and you'll see a lot of birds going up in dust.

There is no end to the number of shooting positions you can fire from,

but always give safety first consideration. You'll enjoy every minute of such training, you'll become much more proficient with your shotgun, and the confidence you will gain will make you look forward to the coming season.

The rifleman needs just as much practice as the shotgunner. His hunting is different and his game is larger, but he has just a single projectile instead of a shot pattern. Many gun clubs have rifle ranges, and some have running deer targets.

To check equipment, a benchrest is best. Comfortably seated, the rifleman checks for eye focus, eye relief, trigger pull, and a host of other things that increase his chances of getting game. I've put dozens of scopes on rifles for men who never before had used a scope. Before they left my shop, I insisted they fire a few shots from my bench. Some flatly refused at first, fearing the scope would hit them in the face. If they were afraid of this in my shop, they would have the same fear in the woods. Putting on a scope was just a waste of money under these conditions. I always took time to explain eye relief, and to clinch my argument I had them watch as I fired a round or two. Most of these fellows tried a few shots before they left and learned they had nothing to fear. The important part of it is that bench shooting not only teaches the basic things about a rifle and scope, it proves what you and your rifle can do. When you have this confidence, you're more than half way to getting your game.

Get Acquainted With Gun

A man should be thoroughly acquainted with the gun he is carrying. Hunting all small game season with a double barrel might cause some confusion when the fellow attempts to find the safety on a Remington pump action rifle. I once hunted with a friend who could rip shots out of a pump gun like pouring water from a teakettle. On this particular day, the son had borrowed the pump gun, and



AFTER HUNTING, every gun should be cleaned. Necessary examination lets user spot possible trouble before it happens.

the father had to settle for a single shot. When I jumped on a brush pile and scared a rabbit past my companion, he promptly missed, and I nearly keeled over laughing at him trying to pump a second shot into the chamber. It wouldn't do any good to repeat what he said, but I finally convinced him that hanging the boy by his heels wouldn't gain anything.

I can't overemphasize the importance of summer hunting and practice. Warming up with the scattergun on clay pigeons or crows will improve your shooting in the fall, and using the 308 or 32 Special on chucks and foxes during the hot months will make your buck come easier. No one can go from one year to the next without practice. There are few, if any, natural gun handlers. Everyone gets out of shape, and it requires some shooting to oil the reflexes, sharpen the shooting eye, and bring back the smoothness that years of hunting bring.

You can improve next year's shooting by starting now to practice. It's a waste of time and money to buy license, shells, and good equipment and then go to the woods totally unprepared for even the simplest shot.

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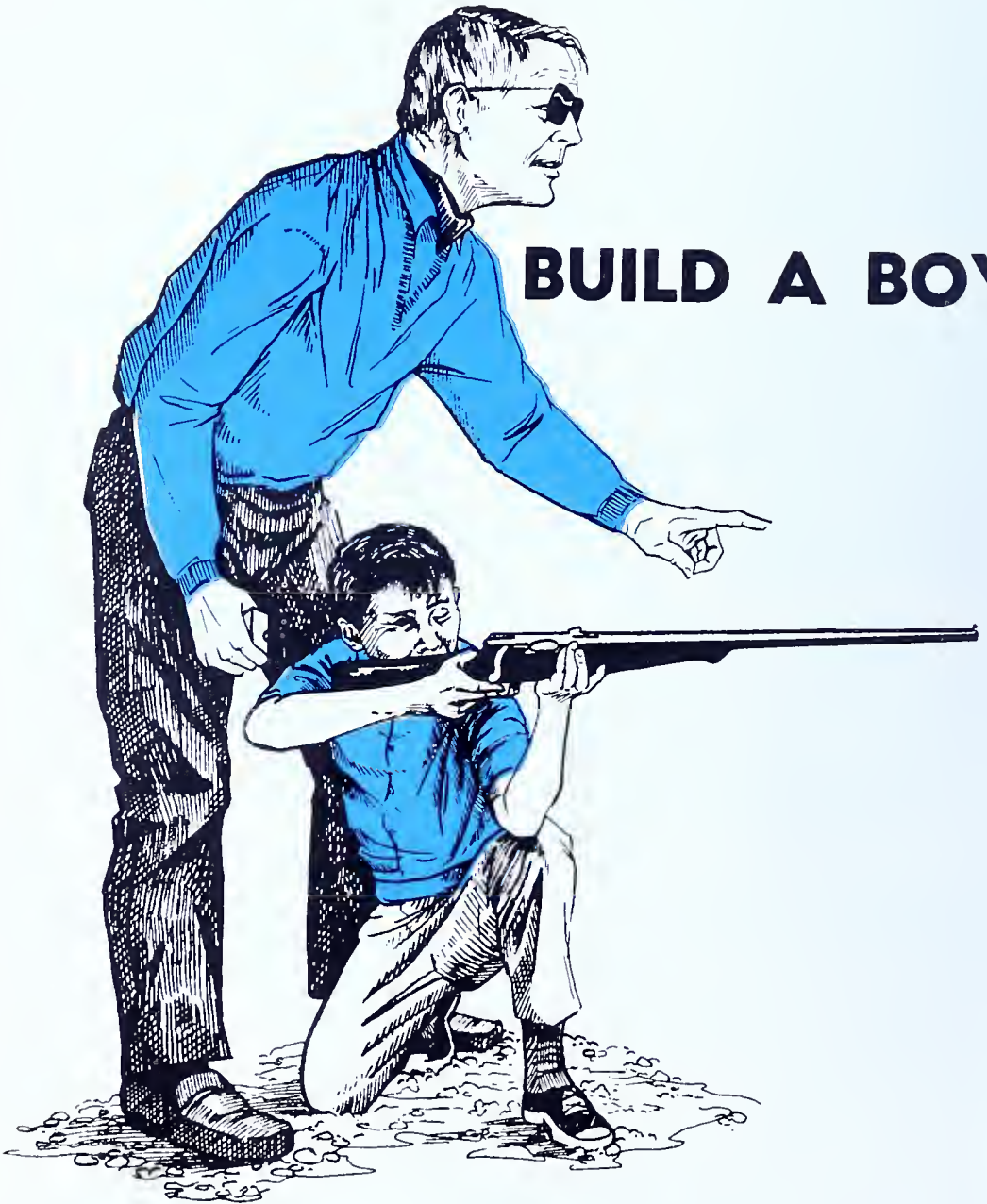
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PENNSYLVANIA GAME NEWS

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COVER PAINTING BY J. R. ROWE

Of all the game birds found in Pennsylvania, the migrant woodcock is one of the most fascinating. His appearance doubtless has much to do with this. A long, slender bill that would be somewhat unusual anywhere seems doubly so on his small, squarish body. He uses it, of course, to probe for his favorite—almost exclusive—food, earthworms. His flight is a sort of slippery fluttering that confounds gunners and befuddles many others who stumble upon him in the dusk near his favorite alder thicket. Even his call—*p-e-e-n-t . . .* *p-e-e-n-t*—is odd. All in all, the timberdoodle is quite a bird.

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**YOU'LL RING
A BELL WITH
YOUR HUNTING
FRIENDS WHEN
YOU GIVE**

**GAME
NEWS**

Say . . .

Merry
Christmas

with

GAME NEW

Use

This

Form

Who Is to Blame?

THIS IS OCTOBER, and our hunting season will soon be in full swing. Pheasants, rabbits, quail, grouse, squirrels, turkey . . . all these and more will be legal game this month, and hundreds of thousands of Pennsylvanians will be afield, intending to bring something home for the table. This is as it should be—as it's been for more years than any of us can remember and, hopefully, as it will be for all time to come.

And yet many people—some of them friends of different viewpoints, others simply critics who are convinced that only they are qualified to judge how all of us should act—feel that it is immoral to hunt. “How can you shoot those innocent creatures?” they ask, and when we explain, many immediately go off on a tangent and declare that all guns should be confiscated, as they're meant only for killing and many are used in homicides, robberies, etc.

Guns *are* far too often used by criminals, but I can't help wondering why so many people equate sporting arms with crime. One possibility seems likely. The great majority of Americans get all their impressions of guns from either newspapers or television. Guns attract the average newsman's attention only when used in crime, while almost the only time they appear on television is when some make-believe sheriff or cop or outlaw is blasting down an innocent, or maybe nefarious, opponent. It doesn't matter which, to hack script writers whose only responsibility is grinding out enough pap to keep the channels full seven days a week. This they do, with a vengeance.

You think I'm kidding? Consider this. According to a recent survey by the *Christian Science Monitor*, during 85½ hours of prime time television on all three networks, *84 killings were shown*. This survey was conducted during evening hours and on Saturday morning. A total of 372 acts of violence was shown, including 162 on Saturday mornings when young children make up much of the television audience. Most of the violence shown during evening hours came between 7:30 and 9 o'clock when, according to official network estimates, 26.7 million children between the ages of 2 and 17 watch television.

All three networks reportedly refused to comment upon the survey.

And this is the medium which constantly permits criticism of sportsmen for hunting.

I'm not qualified to say what effect such violent scenes have on impressionable young minds. Perhaps none, though I doubt this. It seems more likely that television is one of the prime reasons so many of our youth have such a casual regard for human life. After all, if they grow up seeing persons “killed” at the rate of about one per hour, seven days a week, they would seem bound to absorb some of the attitude, even if the disseminators insist the whole thing is only make-believe.

Meanwhile, *no one has ever seen a sportsman murder anyone*.

Who is really to blame for the improper use of guns in this country?—*Bob Bell*



'Twas a Good Day for Ducks . . .

Wood Ducks, That Is

By W. W. Britton

PRIOR TO THE 1930s, the Pennsylvania Game Commission and the U. S. Fish and Wildlife Service were much concerned about the destiny of the wood duck—with good reason. It seemed possible it would meet the same fate as the passenger pigeon. Both agencies had been doing all they could to help this little fellow, but it was not until the Pennsylvania Game Commission embarked on a specific program that the woody came into his own in Pennsylvania. Hundreds of nesting boxes were made and placed on and along our waters. This program is still in effect, and the results have been so satisfying that hunters recently were permitted to take two

a day. Only a few years ago, one was the limit. And in the early 1930s you could not legally bag any. And that is where our story begins.

Before my appointment as a Game Protector, my knowledge of wild ducks was limited, but I soon made it my business to learn all I could about them. The local taxidermist, a congenial man by the name of Frank Flack, had a fine collection of mounted specimens in his museum. Day after day found me at his place of business. He was very patient in teaching me how to identify ducks, hawks and owls. Immature specimens were often difficult for me, but he always pointed out some little identifying mark or

A VISITOR TOLD ME he had counted 45 mallards in the branches of a tree, but when I investigated the "mallards" turned out to be woodies.



character on the specimen which I remember yet today. These lessons served me well in my work as a Game Protector.

More than 30 years ago, before wood ducks were made legal game, a bass fisherman came to my home one evening and told me about a large flock of mallards he had seen that day. He had counted 45, he said, many of which were sitting among the branches of an old willow tree that had fallen into the stream. The opening of duck season being only two days away, he had come to invite me to go with him.

Suspicious Excited

The fact that they were sitting in the branches of a tree excited my suspicions. He agreed to go with me the following morning and show them to me. Arriving there with my binoculars, I saw for the first time a wood duck in the wild.

He had counted correctly, there were 45 of them. Handing the glasses to him and directing him to note the many different markings and beautiful colors adorning the males, I convinced him they were wood ducks. Turning to me he said, "I'm sure glad I came to you. I was planning on taking my limit of mallards from that bunch."

During those depression years very few men had a ten-dollar bill. And there was no one-quarter penalty then for shooting game in honest error. Duck season would open the following day, which left not sufficient time to get word to duck hunters about the presence of wood ducks in fairly good numbers on the Conococheague Creek, which is a tributary to the Potomac River. So the next best plan was adopted. Next morning I went to the stream and before the shooting hour of 12 noon cautioned all the hunters I could find to be careful of their targets. In many cases I described what a wood duck looked like. Many thanked me, but a few paid no heed.

At noon on the dot you would have thought the Battle of the Marne was

still in progress. Driving along a country road about a mile as the crow flies from the Maryland line, I noticed a flock of ducks flying downstream. *Bang! Bang!* One duck fell. Stopping the car and walking over a small green wheat field to the creek where two hunters were standing, I asked to inspect the duck they had just killed. They denied shooting the duck.

"If you didn't shoot it, who did?"

They pointed toward an island in the stream and replied, "That fellow over there among the willows on the island."

Apologizing for my mistake, I waded over to the island where the same request was made.

"Sure, you can see it," the hunter said, pulling from his coat an immature wood duck drake.

I asked, "Do you know what species of duck this is?"

"No, I never hunted ducks before in my life."

"You have an immature wood duck drake."

"Well, by gosh I've got another one just like him," he exclaimed.

He was correct. He had another one just like him.

Honest Man

He was an honest man. My heart went out to him, but what could I do? I had just taken an oath to punish all persons who violated the Game, Fish and Forestry laws that came to my attention. A crossroads had been reached. Being a new Game Protector and rather green yet, I knew a decision would have to be made. How can you let one man go and later arrest another for the same offense? How could such an act be justified? He told me he had no money and had not worked for over six months. Stalling for time I told him to follow me to the creek's bank. This was very poor police procedure. You never permit a defendant to follow you, you always follow him. This further indicates just how green your writer was.

But somebody seems to look after the ignorant and innocent pretty well.

Before reaching a decision in the matter at hand, a well-dressed hunter with a fine shotgun approached us. We recognized each other and his first question was, "What's the trouble, Bill?"

"Your friend here has two immature wood ducks," was my reply.

"They aren't wood ducks, they're blue-winged teal," he said, after looking at them.

"Oh, no, they aren't. They're both immature wood duck drakes."

"Bill, I don't want to dispute your knowledge, but I've hunted ducks from Saskatchewan to the Gulf of Mexico, and these are blue-winged teal and I'll prove it to you."

"I don't care if you've hunted ducks clear down to Cape Horn. These are wood ducks."

Taking one of the birds in his hands he spread the feathers on the wing and said, "See those blue feathers."

"Yes, but take a look at the white on the tips of those feathers. That is the real identifying mark of a wood duck, immature or adult."

Off to See the Tutor

Mr. S. was a reasonable man and was sincere. He agreed to take the ducks to my old friend and tutor, Mr. Flack. He suggested that I go with them. The 25 miles were covered in record time in his new car. Arriving at the museum I told them to go in and have Mr. Flack give his answer before he saw me. There was a little offset in his workshop where I waited out of sight.

Laying the two ducks on the workbench Mr. S. said, "Mr. Flack, what kind of ducks are these?"

"You'd better not let Bill Britton see them," the taxidermist replied. "They're wood ducks. Immature males. This duck is older than that one, probably not out of the same clutch of eggs."

Stepping into view I said, "Did I

hear someone mention my name?"

Looking over his spectacles, Mr. Flack replied, "I'm afraid you did."

He then had a good idea what was going on, and I'm sure it made him feel good when he heard Mr. S. say, "That's exactly what Bill said they



IT TOOK THE taxidermist only a moment to recognize the hunter's bag as wood ducks—immature males, one somewhat older than the other.

were." He then knew that his efforts in teaching me had not been in vain.

Mr. S. asked how much the fine would be, saying he would pay it for his friend. The case was settled on the spot.

Returning to the creek we shook hands and I continued to patrol the Conococheague. One old quail hunter whom I had never met but had heard a lot about came crawling up the slippery bank. His hands were scratched and his clothes pretty well muddied up. He asked, "Do you have any 12-gauge shells you would sell me? I've never had such shooting in all my life."

My gaze on his bulging coat, I told him I had a full box he could have.

"You must have had pretty good luck," I added. "How many do you have?"

"I've got five."

"Could I see them?"

He pulled five woodies from his coat.

"Do you know what kind of ducks these are?"

"No, I don't."

"You have five wood ducks. Two males and three females. Do you still want more shells?"

"No!" He said a few more things, then asked, "What's this going to cost me?"

I told him. I really pitied the old fellow. He was having a ball until I came along.

And that's the way it went the rest of the day. Every hunter I checked

that had some ducks had at least one wood duck in the lot. One fellow had his pants off and was wading out in the stream to retrieve a duck when I came along. It was a woody and two more were lying beside his gun on the bank. He got a little nasty when apprised of the species. The next summer I spotted him at a livestock auction and went over and sat down beside him. He only grunted when I spoke to him, but warmed up a little later and when a youngster came by selling refreshments he offered to buy me a soft drink.

"No," I said, "the treat is on me this time. You paid last fall."

Today, he and I are good friends, so I got more than just memories out of that long-ago day in duck season.

October 13-19 Is Conservation Education Week

Recognizing that the social, spiritual and economic heritage of all Pennsylvanians rests directly on our natural and human resources, and that most of our citizens now live and work in urban areas far removed from close association with our soil, water, minerals, forests and wildlife, thereby finding it difficult to learn about these resources from experience and contact, Governor Raymond P. Shafer has proclaimed the week of October 13-19 as Conservation Education Week in Pennsylvania, calling upon each citizen of the Commonwealth to do his utmost to encourage and accomplish the establishment and development of a program of conservation education in our schools.

Forestry Field Day

A Forestry Field Day will be held October 4 and 5 at the Towanda Airport. This will be the first of its kind ever presented in northeastern Pennsylvania. A wide range of activities related to forestry and the wood using industries will be covered. One of the main objectives is to make people more aware of the economic impact that our forest products industries have on the economy of this region. The Field Day is being sponsored by wood using industries, educational and governmental agencies who participate in many phases of forestry, and forestry promotional organizations.

Bear and Deer Trophies to Be Measured in 1969

More than 2700 trophy deer racks have been measured in the Pennsylvania Game Commission's biennial deer measuring program, begun in 1965. Another opportunity to present deer racks for measurement is slated for the spring of 1969. And for the first time, skulls of bears taken in Pennsylvania also will be measured and recorded. Complete information will appear in a future issue of GAME NEWS.



Photo by Don Shiner

SEASONED THROUGH THE coming months, this wood will be usable in next winter's open fires.

Burn, Fire, Burn!

By J. Almus Russell

IT HAS been said, "He who cuts his own wood warms himself twice," and this thought often goes through my mind, for wood fires are my hobby. Woodsmoke brings the call of the wild indoors. Glowing coals take the place of the campfire. The cheerful hearth is a vacation reminder.

Fireplaces are seldom the only source of home heating. In fact, many an outdoorsman enjoys an open fire because of the burning logs, the colored flames, the woodland smell. The solid backlog of well-seasoned apple wood yields a bluish flame, a cannel coal-like glow, and a delightful odor. The white birch forestick produces bright clear flames. Birch heats well, and throws out a resinous gummy perfume. Pine wood laid between the

apple and birch logs burns a brilliant yellow. Its pitch and resin emit a forest fragrance.

Unless you live in the country in a wooded area, fireplace wood is a luxury that sells for luxury prices. Such fuel sometimes brings \$25 to \$75 a cord when split, seasoned and delivered. A cord of wood measures four feet by four feet by eight feet, totaling 128 cubic feet. Green wood is usually piled one to two feet higher than the customary four feet. This allows for settling, seasoning and shrinkage.

Fortunate is the man who has the time, opportunity and energy to cut, fell, buck, split, haul and burn his own wood. Lucky is the person if, in his scouting around the woods, he finds

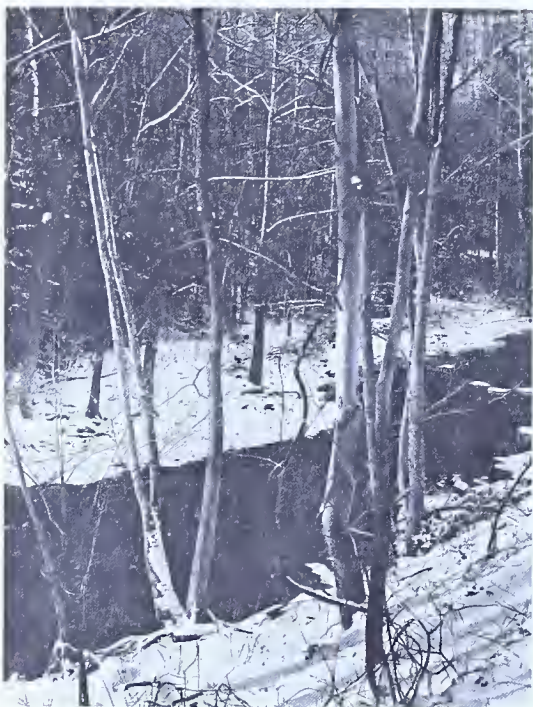


Photo by Don Shiner

SYCAMORE AND WHITE OAK saplings can be thinned out to advantage and are just the right size for cordwood or fire-place lengths.

fuel which he can obtain at reasonable price and easily snag out for his winter fireplace. This may be dead wood, branches, timber-falls, or thinned-out trees. Some of it may be already well-seasoned. Removing this growth reduces fire hazards and improves the timber stand.

If the woodcutter prefers, he may first cut the wood on location. He may use several types of saws. For the amateur, the gasoline-powered buzz saw is the best. However, when the growth consists of branches, a hand-saw is perhaps more practical. The one-man chain saw is preferable for use in hilly or rocky areas. In addition, the chopper needs a sharp ax, wedges and transportation for his wood.

Procedure

Proceed as follows. After locating the wood, saw off the smaller brush-type branches. Start at the ends of the large limbs, cutting these into the maximum length required for your fire-

place. When the pieces approach 4½" to 5" in diameter, begin splitting them with ax and wedge.

Set the wood upright on a level spot. Strike it in the middle with the ax. If properly done, the wood will often split all the way down. If not, insert the wedge in the opening, hitting it a time or two with the blunt edge of the ax. The chunk should fall apart easily.

Suitable length and diameter help with the carrying problem. Your dray may be at a distance. A wheelbarrow may furnish the best method of transporting the wood to it.

Easy Splitting Woods

Ash, maple, birch and oak are easy woods to cut and split. Elm, sycamore, hickory and knotty woods are difficult.

If the wood is unseasoned, it should be stacked. Most wood cut during the winter is well seasoned by July. In October it will burn easily. Very hard woods such as oak may take as long as two years to dry. Green wood should be burned only in a fast fire. Otherwise, it will make deposits of soot, creosote and acetic acid in the stovepipe, back of fireplace, or flues. These often cause chimney fires. Ash is the exception. It is always burnable, green or dry.

In fireplaces, keep the ashes up to the top of the andiron feet to avoid rapid burning of the wood. This procedure also kindles fresh fuel more quickly, yielding a steady heat.

Kindling

Dry branches and twigs, cones and bark, all make good kindling. Split softwood is equally useful. A stub of candle is an emergency lighting aid. A brick soaked in kerosene is also an excellent fire-lighter.

Hickory, oak, beech; hard maple, rock maple and elm—these woods have the highest heating value, with one cord equaling about a ton of anthracite coal.

Finders may be keepers but not always choosers so far as wood is concerned. As Henry Van Dyke wrote:

Many a tree is found in the wood,
And every tree for its use is good;
Some for the strength of the gnarled
root,
Some for the sweetness of flower
or fruit;
Some for the shelter against the
storm,
And some to keep the hearthstone
warm.

If you do have a choice, however, remember that our hardwoods such as birch, oak, maple and hickory provide slow, long-lasting fires. Apple, ash, rock elm and rock maple give long-lasting coals for cooking. Basswood, chestnut, all conifers, tamarack and willow produce excessive smoke and unpleasant smells. Chestnut throws sparks all over the floor, as do butternut, spruce and tamarack.

Some folks are allergic to smoke. Therefore, don't burn pieces of poison ivy or logs of poison sumac (elder). They often cause skin and lung inflammation.

Not the least of the enjoyment of open fires is the color of the flames. White birch has the whitest and clearest. Its light is sometimes used in place of magnesium flares. Hornbeam and beech are close seconds in brightness. Pine gives a bright yellow; cherry, orange-yellow; applewood, a bluish flame. By contrast, "poverty" birch burns fast and lively, with a vivid

MIXED HARDWOODS and softwoods piled together preliminary to sawing. (See the pheasant?)

Photo by Don Shiner



WHITE BIRCH—the caviar of fireplace wood. It is low burning, heats well, and throws off a resinous perfume.

gold-and-yellow color. Elm "burns like churchyard mould" with cold flames; hickory and oak, long and hot, with low flames.

Pleasant Fragrance

Too little attention has been paid to the pleasant fragrance of burning wood. Apple tree wood smells like orchard incense; Scotch pine has a resinous odor. Cherry logs are delightfully fragrant. Poplar smoke is unpleasantly bitter, but sassafras, bayberry, and spicewood perfume the air. Green wood is redolent with oozing sap.

Broiled meat is also flavored by the type of wood used. As one camp cook expressed it, "Flames are best for boiling, but coals are best for broiling."

Maple bark imparts a forest taste to smoked hams. Wet hickory chips give a walnut flavor to meat, while cherry and oak splinters add a taste all their own. Spicewood twigs remind one of allspice, and sassafras and bayberry provide a bayleaf tang.

Avoid pine, hemlock and spruce barks, for they yield a turpentine flavor, unpleasant odors and blackened meat. Hickory and oak barks are preferable for smoking meat.

Pine cones make excellent fireplace kindling and flash fuel. They may be

made more flammable by dipping them in a container of melted paraffin before they are hung up to dry. They will burn with colored flames if soaked for several hours in the salts of certain metals as listed below. The bath consists of a pound of the dry chemical mixed with one gallon of water. Use a wooden pail or earthen crock, as the chemicals will ruin a metal container.

Dip in Wax

Cones or kindling may also be dipped in the wax, then sprinkled with the salts before the wax hardens. Even fireplace wood of small size may be sprinkled with the salts, or soaked in a chemical bath.

Some colors hide others. For that reason, do not mix the chemicals; rather, soak the cones in one solution only. Use a cloth bag for the dipping. This will keep the hands out of con-

GASOLINE POWERED chain saw takes much of the work out of cutting fireplace fuel, makes pruning easy.



tact with chemicals which will stain them.

Use the following salts for flame colors:

Red	strontium chloride
Bluish green	copper sulphate
Yellow	sodium chloride
Orange	calcium chloride
Blue	cobalt chloride

While these chemicals are safe, reasonably inexpensive and easily obtained, some precautions must be taken with them. Nitrates or chlorates should not be used because of fire danger. Chemicals should be kept in tightly-stoppered bottles, else they will gather moisture. Chemicals as well as treated cones must be kept away from children and pets.

To help you remember the characteristics of various woods, you might memorize this little poem by Celia Congreve:

Beechwood fires are bright and clear,
If the logs are kept a year.
Oak logs burn steadily,
If the wood is old and dry.
Chestnut is only good they say,
If for long it's laid away.
But ash new or ash old
Is fit for a queen with a crown of gold.

Birch and fir logs burn too fast
Blaze up bright but do not last.
It is by the Irish said
Hawthorne bakes the sweetest bread;
But ash green or ash brown
Is fit for a queen with a golden crown.

Elmwood burns like churchyard mould,
E'en the very flames are cold.
Poplar gives a bitter smoke,
Fills your eyes and makes you choke.
Apple-wood will scent your room
With an incense-like perfume.
But ash wet or ash dry
For a queen to warm her slippers by.

Wood properly cut and seasoned is clean and free from dust. When burned, it produces little smoke or

soot. A cord of wood leaves about 60 pounds of ashes compared with 200-300 pounds of ashes from a ton of hard coal.

Lower Ignition Point

Wood also starts burning at a lower temperature than coal. Hence, a wood fire is easier to start and can be maintained at a lower ebb than a coal fire. For fast cooking, a wood fire need not be kept burning as long.

Let the open fire burn easily. A moderately high fire creates its own draft. Use the hearthbrush to sweep in the coals, although a few ashes are nothing to worry about. An asbestos mat laid in front of the hearth saves rugs from burns, floors from pockmarks, and removes a fire hazard.

Writes an open fire enthusiast: "Tending fire is for the patient man. It fosters deep thoughts and a contentment with the simple basic things of life. It is good to read that homeowners are again asking for fireplaces. Mechanical heat has its good points and one wants it. But somehow a home is more meaningful if flames paint a picture in the fireplace and a man has a chance to tend a fire."



HUNTING CAMP FIREPLACE with white birch logs on andirons. Built of brick, fireplace has granite top and plank mantel. Note wide hearth that protects floor from sparks and the deep "throat."

Book Review . . .

Wild Game Cookbook

When a hunter remarks that after the shot the fun is over and the work begins, he's thinking of getting that deer out of the woods. But when his wife makes a similar comment she's speaking of properly utilizing the game as food. With this new *Wild Game Cookbook* from the Remington Sportsman's Library, a lot of her problems are solved—deliciously! Editor L. W. "Bill" Johnson has crammed 160 pages with game recipes begged, borrowed or "liberated" from friends during his countless cross-country jaunts as an exhibition shooter. For instance, over half a hundred ways of preparing the lowly cottontail are detailed—so give the frypan a break! Or just for a change try loganberry-stuffed woodcock, roast pheasant with rice cakes, wild duck on toast, marinated bear steak or maybe buttermilk-basted venison. The how is here, so live a little, huh? (Grosset & Dunlap, New York City, 1968. 5¼ x 8¼, paperbound. Order from Cook Book, Box 206, Fairfield, Conn. 06430. \$1.95.)



H. ROSATO

*Hey, Gals! Isn't It About Time You Tried the Hunting Bit, Too?
With Proper Planning, There's Really Nothing to It. Just . . .*

Get Ready . . .

Get Dressed Right . . .

and Go, GO, GO!

By Susan M. Pajak

MEN! The next time your one and only exclaims at the top of her lungs that she doesn't have a thing to wear . . . believe her! She probably doesn't have two seams to stick together—when it comes to her outdoor clothing wardrobe, that is.

Time and time again one sees the little woman venturing forth to hunt alongside of her husband wearing what must have been rejects from the "seconds" factory. And the attitude that prevails in some households is that "any old things will do as long as she's wearing three layers of each."

But that's not *her* attitude. . . .

It's no small wonder that when asked how the day's hunt went, let's say deer hunting, she'll bravely admit that she "didn't move from the spot he put me in" all day. *How could she?* Bundled in "three layers of each" she was as immovable as the traditional cornfield statue, and on top of all this she had a gun to hold. *Really now!*

So, the important thing, girls, is to be warm, comfortable, and movable—in your own hunting clothes. This goes for all the game seasons, not only the deer season. Let us start at the bottom, so to speak, and suggest to you what should basically be *in* and what should be *out* as far as your outdoor clothing wardrobe is concerned.

In: First, a pair of sturdy, leather, insulated hunting boots. Leather will take rough going splendidly. And ladies' hunting boots, if you please. There's no reason for you to be clumping around in men's hunting boots

when many boot and outdoor clothing companies make and advertise ladies' hunting boots.

Check your nearest sporting goods store and if they do not carry ladies' hunting boots write to the companies that advertise in outdoor magazines. They'll supply the names of stores in your area that do carry them. Or, if you wish, you may decide to order from the company itself once you read their catalog.

Use Heavy Socks

But should the sporting goods store carry ladies' hunting boots, before you try them on, purchase a pair of heavy thermal socks, slip them on over your hosiery and then put on the boots. Lace them snugly and walk around a bit. If they are comfortable and firm on your feet, they are for you.

They may feel as awkward as two manhole covers at first, but if you will break them in at home before the hunting season they'll be as comfortable and "walkable" as any other pair of comfortable shoes you have.

You did note the phrase "break them in at home," didn't you? Hope so, because where else, in the beginning, will you find conditions so near those of hunting? For example: Climbing steps simulates toiling up a mountain; carrying a basket of laundry simulates carrying a rifle, shotgun or bow, as both hands are full; wiping up a spill on the floor simulates bending over to study deer tracks or whatever; dodging scattered toys simulates avoiding

rocks, logs, pine cones, etc. There's no end of ways to get in shape.

It's good exercise, so never mind what the neighbor ladies say when they stop in for conversation and coffee. You *must* break in those boots.

Out: Tennis shoes, rubber rain galoshes, an old pair of hubby's boots, those cute things with the fuzzy fur inside and tiny high heel outside, and anything else you may have in your shoe closet thinking they will do the job. *They won't!* You need good foot protection, warmth, and comfort. Pinching your pennies by improvising with something handy will give you second thoughts when you are out in the cold or snow and your tootsies are freezing.

In: Second, to simplify, is clothing. Thermal quilted underwear, bright red wool outer pants and coat, an inside flannel, wool, or sweatshirt, wool gloves with leather palms, a fluorescent orange hunter's cap and vest and you're ready to go. Wool clothing is suggested because it's quiet, sturdy

YOUR NEW BOOTS may feel like two manhole covers at first, but if you break them in at home they'll be comfortable in the field.



and warm. The orange and bright red items are for safety.

Don't forget that many outdoor clothing companies that seem to lean completely to the men's needs also include ladies' outdoor clothing, although this isn't always obvious.

Look through the catalogs you send for. You'll notice that women's hunting clothes are not any different in material or basic tailoring than men's clothing. So if you're thinking that you need "special clothes" just because you overheard someone say something along those lines . . . well, it's just not so. Many ladies who enjoy hunting just wear a small size in men's clothes and are quite comfortable, but in most cases the gals prefer the label to say "Ladies."

Note: If you are one who simply cannot take cold weather for hours and hours, you may wish to check into goose down clothing. Several companies manufacture these items, and there's no doubt about their efficiency.

Out: (Especially for deer hunting.) Corduroy, blue jeans, and slacks of other lightweight material. No warmth. A fancy blouse underneath is of no value, either. Wear a sweatshirt or a flannel or wool shirt if you feel you must have something extra on.

Extra Tips

- If you don't like the wind blowing around your neck and ears, tie a colorful scarf around your head, knotting it in back before putting on your cap. A colorful scarf—not white.

- The belt you wear to hold up your hunting pants will have to be larger than your regular size to compensate for the "extraness" of your clothes. It should be wide, to avoid cutting. Or you might try those wide, real "fireman's" suspenders. (Truth is, they're best!)

- A stretch-strap undergarment is great if you want to avoid perhaps a sudden "break" when reaching for a limb to help steady your balance.

- Perfume, perfumed hair sprays, soaps and deodorants are out. Sorry about that. It might be okay in the small game season but not when hunting deer because deer depend on their keen sense of smell, along with their sight and hearing, to warn them of intruders. Wear deer scent.

- Little delicate white handkerchiefs are out. Carry a workman's big red or blue one. To some groggy hunter a white one might look like a flashing deer tail.

- Take your wig, wiglet or hairpiece along if you have one. It's a great morale booster once you learn your hairdo gets pretty flattened out—especially if you're going to a restaurant for supper. (Why should you have to do the cooking and cleaning up afterward all the time you're in camp?)

- When storing your hunting clothes 'til the next time, put your gloves, scarf, belt, knife, etc., in the pockets so you'll know where they are. Don't forget to clean and dub your boots before storing.

So you want to go deer hunting for sure now but are wondering how much this new wardrobe is going to cost. About \$125. Don't look so surprised. Your hunting clothes will last for years and years. The following prices were noted after a recent stop at a sporting goods store:

Ladies' leather boots	\$ 29.95
Quilted underwear, tops and bottoms	17.95
Thermal socks	1.95
Ladies' wool outer coat ..	23.50
Ladies' wool outer pants ..	19.95
Fluorescent orange cap ..	2.50
Gloves	3.00
Sweatshirt	2.95
Scarf (from the five and dime)	2.00
	<hr/>
	\$103.75



WHAT'S A LITTLE thing like \$125??? After all, your new hunting clothes will last for years.

If you think you would like to go small game hunting (and why not?) add a pair of brush pants (\$7.95); vest with game pocket (\$7.95); or, if you prefer, a full brush coat (\$10); plus a lighter weight fluorescent orange hat (\$2) for a grand total of about \$125. Don't forget to "give or take" a few dollars here and there.

Where are you going to get "that kind of money" you ask? That's the easiest part of all. First, there's your birthday. Then your anniversary, the Fourth of July, Christmas (load up on this one), Easter, etc. And, of course, when it comes time to buy **YOUR NEW SHOTGUN OR RIFLE** (was that said loudly enough?), remember the time hubby said that caved-in fender on the family's new car happened when a taxi backed into him? You didn't really believe that, did you? Ho, ho!

Seems Awfully Monotonous

Up to 99 percent of the bald eagle's diet consists of fish.



Three C's for Grouse

By Robert F. Cubbins

IF YOU'VE HUNTED grouse for one or two seasons, you've served your apprenticeship. You know, for example, that the little 20-gauge in quick hands is often deadlier than a heavy 12 or the 16, and that loads from 6s to 8s are more effective than heavier shot, with 7½s the favorite of most gunners.

You've learned to spot good cover by crossing creeks and getting your feet wet, slipping on decaying apples, picking pine needles out of your shirt and off your neck, and forcing your way through vines, briars, dead limbs and windfalls. You've surprised Ol' Ruff at the dinner table often enough to recognize his favorite foods, and you know when and where to find him in the chow line.

Like most of us, however, you've discovered there's more to grouse hunting than shotgun selection and plant recognition. You have to connect. How often have you heard an acquaintance say, "I have a good gun and I know where the birds are . . . but how do I hit 'em?"

The answer is technique. Let's take a look at it.

The key element is *concentration*. If you can't concentrate, you'll fill your limit only by accident. Squabbles over the unraked leaves in the yard, the mess in your den, and the dust-laden storm windows in the cellar must be put on the shelf when you leave the house. Nor can you afford to get caught mentally filing your income tax or worrying about the oil spots on your garage floor. Exclude everything from your mind but grouse.

My wife once asked me, "What do you think about when you're tramping around in the woods all day?" When I said, "Grouse," she gave me a dis-

dainful look and took off for the kitchen. But I couldn't have been more serious. When a grouse hunter takes that first step into likely cover, he should feel like a gigantic spring being compressed into one-third of its original length, ready to erupt at the first flutter of wings. His concentration should be so intense that no sound or movement should escape detection.

You're probably chuckling a little at this point, visualizing yourself on the track of an international spy in a James Bond thriller. Chuckle if you will, but this is just what you *should* look like. Refine your senses to their highest pitch. The minute you relax, the second that you allow yourself to unwind, a bird will burst from your feet and leave you standing there wondering what in blazes you were doing. How many times have you stopped to light a cigarette or tie a bootlace, only to find yourself looking helplessly at an easy going-away shot? Take your breaks in the car on the way to the next cover, and save that smoke for the next meadow.

Asking Too Much?

You may feel this is asking too much of you. After all, you're out primarily for fresh air, companionship and exercise. You're no game hog. If you miss a few easy shots, so what? Alas, we've all tried this little bit of rationalization. The fact still remains that the days we seem to enjoy most are those which are most productive of birds. (Ever notice how those 40-pound boots seem to disappear when you stuff a fat grouse into your coat? This is extra weight we all like to carry.)

The second point in technique is *control*—body control and gun control. We'll tackle body control first.

Many gunners accept the theory that the upper body should rotate from the hips. It is this mistaken idea, perhaps more than any other, that accounts for most misses on quartering or passing birds. Rotation should start at the knees and proceed through the hips to the upper body.

A few gunners may take exception to this statement and argue that misses on quartering and passing birds occur when the gunner stops his swing. They fail to recognize that the stopped swing can usually be traced to locked or rigid knees.

Try this little exercise in your den . . . you may find a clue to that last miss in the orchard. (Lefties reverse.) Holding your gun, pick out an imaginary target about eye level on the wall and assume a comfortable shooting stance with your feet about shoulder width apart. Shoulder your gun on

coat on in the morning. Stop when you've turned 90 degrees from your target. Chances are you'll have to stop anyway. Notice that you seem to be *pushing* the barrel?

If you've kept your knees locked and your weight equally distributed, the muscles under your right shoulder blade should feel as if they've gathered for a council of war. The muscles at the back of your left leg are also trying to tell you something. Try swinging farther? Hard, isn't it? No shooting position, this.

Now *bend* your knees and put more weight on your front foot. Miraculously, that knotted bunch under your right shoulder blade has disappeared, and your leg muscles are no longer protesting. Maintaining this bent-knee position, swing around to the left. Then swing back to the right. Feel the smooth, even ride of your gun barrel?

Swing From Knees

Don't let anyone kid you—smooth gun swing emanates from the knees, not from the hips. The gunner who shoots from an erect position and who fails to swing from the knees will inhibit the natural rhythm of movement so essential to good wingshooting.

Don't worry too much about footwork. Somehow, the feet think for themselves. It isn't necessary to inch your way over every ridge with the same foot constantly in the lead. More important in good body control is adequate width between your feet. Walk with your feet comfortably wide apart and be ready to snap into a shooting stance at every step.

Effective gun control is really quite simple. In grouse cover the gun must be carried in the *only* position that will allow you to shoulder it with one fluid motion. Carry the gun in front of you with both hands. Keep the muzzle up and the butt fairly snug against your side. Don't add an extra half-second to the time it takes you to mount the gun by carrying it in the



THE COMB OF THE STOCK should fit into the hollow of your cheek with just a minor tilt of the head. Shotguns are pointed, not aimed, and comb height controls your pattern's elevation.

target, and with your weight equally distributed on both feet, lock your knees and stand erect, keep them locked. Now swing the gun to the right, allowing only your hips to rotate. Don't jerk yourself around, or you may have difficulty putting your

crook of your arm or slung over your wrist, or worse, over your shoulder. Using the two-handed carry, you'll hit more birds on the first shot than with any other method.

Something should be said here about the safety on your gun and the position of your trigger finger. If your safety is mounted on the rear of your trigger guard (I much prefer it in this position), your trigger finger should be extended alongside the trigger guard. With a little practice, you need only apply a little lateral pressure on the safety with your second joint as you slide your finger to the trigger. Snapping the safety off and getting your finger on the trigger can then be accomplished in one motion. This little timesaver is almost as important as the position of your gun. In grouse shooting, every instant you gain will improve your score.

When you mount the gun, the comb of the stock should fit into the hollow of your cheek with just a minor tilt of the head. If you can't feel the pressure of the stock just under your cheekbone, don't compensate by lowering your face to the comb; raise the gun on your shoulder until you do feel the comb biting into your cheek. Remember that shotguns are pointed, not aimed, and the comb of the stock controls the elevation of your pattern. If you can't make the comb fit properly, I suggest you see a gunsmith who may be able to make the necessary adjustments. Many easy shots are missed because the gunner fails to weld the stock to his face and shoots under a rising bird.

Dry Firing

Nothing will help you gain control in mounting your smoothbore more than a little dry firing with an empty gun. Walk through your basement, turn swiftly to an imaginary bird rising out of a small spot on the wall and pop the gun to your shoulder. Concentrate on covering the object as quickly as possible. Check your posi-

tion. Are your knees bent? Are you leaning into your target with more weight on your front foot than the rear one? Is the comb of your stock tight under your cheekbone? This is also a good time to practice snapping off your safety as you mount the gun.



MR. RUFF DOESN'T FLY at the speed of sound—it just seems that way. Don't let his thundering blast-off rattle you. You can hit him!

If you wish to pull the trigger—a good habit to develop—an *empty* case in the chamber will absorb the shock of your firing pin.

As a boy learning to hunt quail in Georgia, I spent most of my time in the field popping a little single-loader to my shoulder. Following along behind the setters, I dry fired at everything in sight. I decimated the mockingbird population, bagged a great many persimmons, and more than once blistered a few choice pine knots. My stepfather, Ray Ward, still the finest shot I've ever known, smiled quietly at my antics. He knew very well that I was working to get that little gun to my face fast enough to wipe his eye. I never did wipe his eye in over 20 years, but I began to hit more birds on the covey rise and gather in my share of the singles. When we started working the Northern grouse covers, the hours I'd spent



TWO-DAY LIMIT OF grouse plus several woodcock prove Cubbins' contention that concentration, control and confidence provide the answer on these game birds.

mounting that gun paid good dividends.

If you want to shoot grouse, you must learn to mount your gun with lightning-like speed, and dry firing will cut seconds off your windup. There are few ways in which you can improve your speed more effectively. You don't need to snapshot . . . but fast mounting will give you more time to adjust to the bird's flight path before you pull.

The last element in technique, and one which most of us tend to underestimate, is *confidence*. Because they

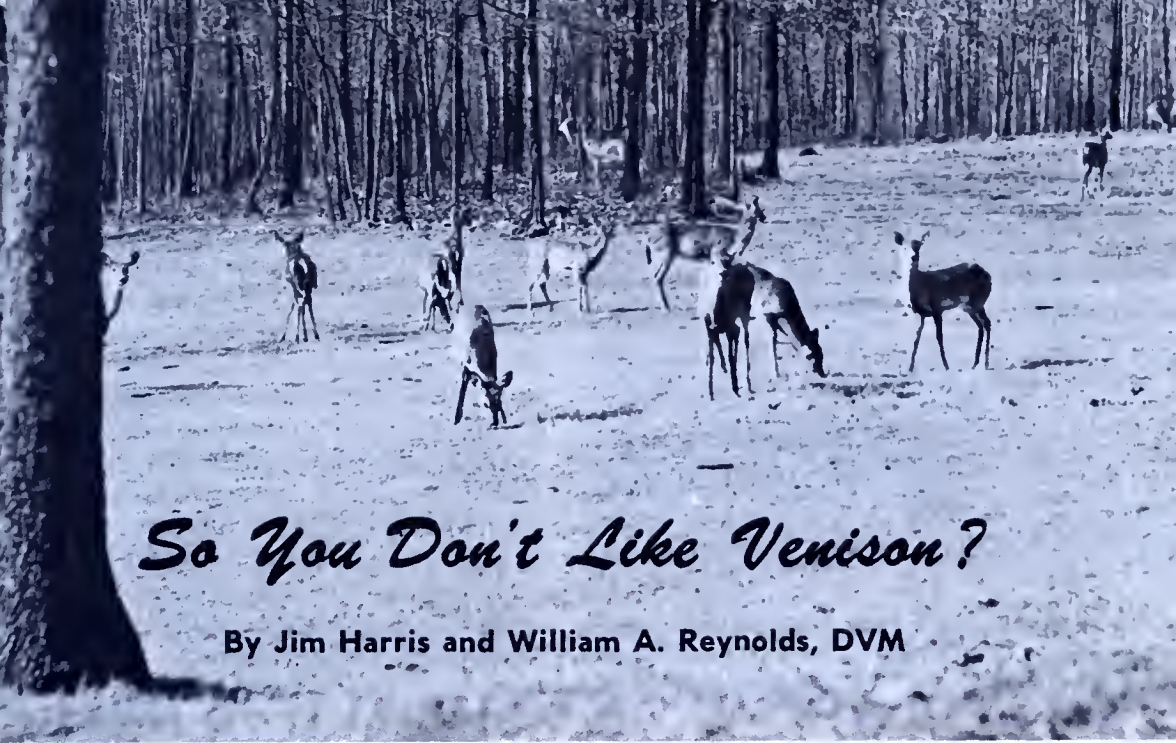
lack confidence, a great many otherwise excellent game shots are stymied by the ruffed grouse. The explosive thundering of the bird as he rises from under an apple tree or from a tangled mass of underbrush is enough, in itself, to unnerve the most cool-headed gunner. This explosion, coupled with the bird's penchant for seizing every opportunity to catch the hunter off guard, sometimes makes us regard the grouse as a game bird reserved only for those shooters with calibrated eyeballs and a shortstop's reflexes. Nonsense!

Anyone who can hit pheasants, quail or woodchuck can hit grouse, and with the same degree of consistency, providing he *knows* he can. The "he's-too-fast-for-me" school of thought will never help you fill your limit. You must develop the confidence in your ability as a gunner which comes from knowing that you are ready to meet Mr. Ruff on his terms whenever he decides to rocket up. Once you've convinced yourself that he doesn't fly at the speed of sound (he's actually slower than the pheasant or the quail), that the noise of his rise is just so much wind, and that you can get your gun up before he's moved a few feet off the ground, you'll find, perhaps to your amazement and complete satisfaction, that you *can* hit grouse . . . and you'll keep on hitting them, shot after shot.

In the quiet moments on the way to your favorite cover, think about the three C's for grouse: *concentration*, *control*, and *confidence*. They'll put more birds in your coat this year. That's a guarantee.

Recipe for Dove Breasts

Wash and dry each dove breast thoroughly. Dust the meat with flour seasoned with salt, pepper, marjoram and a pinch of powdered garlic. Brown the breasts in melted butter in a heavy skillet. After browning, add one-half cup of a good dry white wine to the skillet, cover, and simmer the breasts until cooked—about 30 minutes. Add more wine if needed. Allow three doves per person.



So You Don't Like Venison?

By Jim Harris and William A. Reynolds, DVM

PEOPLE who dislike venison because of what they call its rank flavor are not always wrong in their thinking nor picky in their choice of food. Most of them have tried various culinary rituals, from soaking the meat in plain salt water to swathing it in a bath of herbs and spices and barbecue sauces. But even this camouflage cannot hide the gamey flavor nor the rank cooking odor of strong venison. Nothing can. So for many people, venison is the fare for one meal a year. Others of us not only enjoy it, but also look forward to it.

What makes the difference? Age and condition of the animal? Feed? Your wife's method of cooking?

You had better not blame it on the little woman! As a matter of fact, whether you know it or not, you—the hunter—are probably more to blame for strong venison than any of the reasons expressed above. You may have spoiled your venison even before you pulled the trigger! And all that you did—or didn't do—afterwards didn't help matters any.

Let's think back a bit now. How about that young deer you bagged a few years ago? Remember how you drove that patch of woods over on

Rattlesnake Ridge, and how it came boiling out at a spot where one of the watchers was supposed to be and wasn't? Maybe you made a good shot that year—one shot behind the shoulders at 200 yards. Or maybe you hit too far back and had to trail the deer for a couple of hours. Remember?

At any rate, one way or another you finally got that deer. Nice and young and tender—and so strong you couldn't eat it.

Well . . . how about the old buck that so and so over the hill shot a year ago? He gave you a piece of the backstrap, and, man—that was good eating! Different food, you say. Corn, apples, winter wheat. Well, it *might* make some difference.

But the big difference was made when you ran your deer! Or you failed to make a clean kill! It was then that the venison acquired that strong, rank flavor. Its age and its feed and the way your wife fixed it for the table are quite secondary.

In basic terms, a deer is a complex mechanism of switches, relays, pumps, levers, plumbing, solenoids and high voltage wiring. And all that is required to put these functional components on an overtime emergency



EVEN A BIG BUCK, such as this 12-point bagged by Gerald Gross of Irwin, can be top eating as well as an outstanding trophy.

basis is to press the panic button by opening the first minute of the drive with a wild yell that would raise the hackles on Geronimo!

Imagine, if you will, what happens to the nervous system of a deer when it suddenly finds itself under attack. The heart rate increases tremendously to supply the muscles with fuel. Oxygen is needed—quantities of the stuff—to burn this fuel and thus create energy. The body is charged with a massive dose of adrenalin that increases the physical load capacity by a large percentage, and every nerve in the animal hums like a high tension wire. In short, the deer is not functioning on a normal basis. It's running like a gasoline engine with the throttle tied down and the governor gone riot.

How Affect Meat?

How does this affect the meat? I can only offer an explanation that at present is medically sound and logical. Within the near future, and with the research efforts of William A. Reynolds, Doctor of Veterinarian Medicine, we hope to offer conclusive proof that the palatability of venison is far more affected by the nervous condition of the animal at the time it is taken than

by its age, sex, or environment. For the time being I rely solely on 28 years of experience as a deer hunter, along with information given to me by Bill Reynolds and J. B. Lowe, Leader of the Utah Cooperative Wildlife Research Unit at the University of Utah.

As we stated several paragraphs back, when a deer is run by hunters—and this is the normal course of events in "drive hunting"—the deer is not functioning on a normal basis. The blood vessels in the internal organs and intestinal tract become constricted, thus forcing or redistributing the blood to the hard working muscles of the body—those which make up the steaks, neck, tenderloin, shoulders, etc. This is necessary. These muscles are figuratively screaming for fuel. And to intensify matters, the entire system is charged with adrenalin, a hormone that lets the muscles work beyond their normal capacity.

Fuel Into Meat

So now we're pumping vast quantities of fuel into the meat we intend to eat, and the fuel in turn is being converted into energy and waste products of lactic acid and pyruvic acid. For the deer hunter, the names of these acids are unimportant. One only needs to know what happens to them to see the complete picture.

Did you ever push a deer hard—hour after hour? And did you notice as you trailed this deer that every time it stopped, it urinated or excreted? This was the effort of the deer's body to dispose of the waste products—pyruvic acid included—that accumulated in the muscle tissue as a result of the vast sum of fuel consumed.

This is what you are doing when you drive a deer—you are saturating the meat you intend to eat with waste products!

Let's back up a minute. The blood that carries fuel to the muscles is arterial blood. That is, it's carried in the arteries—heavy, thick-walled tubes that carry a large volume at relatively

high speed. But the blood that carries the waste products away and eventually to the kidneys is venous blood. It travels in thin-walled veins at much slower speeds than the arterial blood, so that we have a rapid buildup of waste product in those muscles which make up steaks and chops and roasts. About the only way we could duplicate such a condition artificially would be to soak the meat in a brine of waste product before we cook it.

Visible Evidence

Now to support theory with physical evidence, I talked with a man who has raised beef cattle for years, done his own slaughtering, cutting and packaging. This man can tell at a glance—and I mean a glance—whether or not a beef was run before it was slaughtered. “The meat,” he says, “is a bit darker than normal. It looks soft.” With the same positive tone of voice, this man will tell you that meat from a beef that is run prior to slaughter is tough, strong and unpalatable.

The average person can hardly be expected to recognize such qualities in meat. It would require years of daily association and a keen perception to acquire such skill. But the fact that it is visually recognizable supports the theory of contamination by a waste product.

Nor is this the end of the evidence. Two years ago my son shot a buck as it stood up from its bed. This was an old buck with badly worn teeth. Furthermore, when I skinned the animal and found it lacked the usual layer of fat between the hide and flesh, I fully expected the venison to be rank and tough. Just the opposite proved true. The meat was as tender and flavorful as that from a button buck. We have found the same thing to be true of old does that were hunted and shot in the same fashion. Conversely, we have also shot deer that have been run by other hunters, and found the meat to be strong regardless of the age or sex of the animal.

As for bullet placement, this too has its effect on the palatability of venison. If we could dispatch a deer by the most ideal method, we would first render the animal unconscious by a blow to the head, then hang it by its hind feet and cut its throat. That is the procedure at a slaughterhouse—and for very good reason. Quite simply, it assures that all of the blood and waste products in the blood are pumped from the animal by natural means.

The closest we can come to duplicating this in the hunting field is with a neck shot or the heart shot. The former, I think, is best. The shock of the bullet in striking the neck usually totally immobilizes the animal without immediately stopping the heartbeat.



THESE HUNTERS are moving out for a drive—a traditional hunting method in Pennsylvania, but one not favored by the author.

And at the same time there is usually enough tissue destruction of the neck to permit free bleeding.

The head shot, I believe, should be avoided. The brain is so small that unless everything else is in favor of the hunter, you are more likely to shoot off a lower jaw than to hit the brain. Further, even if the brain is hit, this kills the animal instantly. It stops the heartbeat immediately and is not

in a locality to promote proper bleeding.

As for a poorly placed bullet in any other part of the body—flank, paunch or hindquarters—this too has a terrific effect on the flavor of the meat. First, a poorly placed bullet usually results



A DEER THAT IS properly hunted, field-dressed and cared for will equal most domestic meats when placed on the table.

in a long chase—and we've already seen what happens when you push a deer. Secondly, when a deer is wounded—in the hindquarters, for example — arterial blood immediately rushes to the area of the wound. Veinous blood, however, traveling away from the wound, is greatly reduced because we have destroyed the veins at their source. Thus the waste products already in the meat are trapped there, as well as new waste products being formed as a result of the inrushing arterial blood.

Hydraulic Action

Merely cutting away the shredded or bloodshot flesh from the vicinity of such a wound will not necessarily eliminate the strong flavor of the remaining meat around that portion of

the deer. A bullet striking flesh creates a compressive force or hydraulic action on the blood vessels. If you have ever fired a high velocity bullet into a tightly stoppered can of water or whole grapefruit, you will recall how the can or grapefruit exploded. To some extent, the same thing happens to a deer. Blood vessels are stretched or ruptured and the blood and wastes are literally backed up in the arteries and veins and forced into the surrounding flesh.

While with proper care it is possible and practical to keep good venison good—and even to improve the quality of venison—it is totally impossible to create good venison out of meat that was ruined before the trigger was pulled. So if venison, to you, is strong and rank, with a cooking odor that slams you in the face like a wet bath towel, give some consideration to the way you hunt.

Four Ways to Better Venison

1. *Proper Hunting*—Hunt your deer quietly. Stalk him and take him with one well-placed shot in the neck or chest cavity. Avoid the head shot, and avoid cripples.

2. *Proper Field Dressing*—Immediately remove *all* of the intestines and internal organs. Don't leave the chest cavity full of lungs, heart, blood, etc. If the deer must remain in the field for some time, lay it with the head downhill to promote proper draining. When you get it to camp, hang it by its hind tendons—never by its head.

3. *Proper Care*—Remove the skin as soon as possible. Wash the carcass down with several pails of warm water. Do not use cold water as this will congeal the blood.

4. *Proper Aging*—If possible, age the venison at a controlled temperature of 34° to 36° for at least seven days before cutting, wrapping and freezing. If temperatures are not controlled, and range up to 60°, the aging period should be reduced by two or three days.

When It's the First Day—Not Only of the Season but Also of a Young Man's Life—It Would Take an Awful Lot to Keep Him Out of the Woods. Even if He's a . . .

Hunter on Crutches

By Richard E. Walton

A PAIR of crutches and a plaster cast. Now that's hardly the type of gear normally needed for small game hunting, but for me it was necessary equipment for my first day afield during the 1954 regular small game season.

I was among the thousands of other hunters in Luzerne County that day, only I spent the day sitting on tree stumps and felled oaks with a Remington pump on my lap and crutches at my side. My left foot was in a cast.

A broken foot failed to keep me out of the woods that day because it was my very first time to go hunting. The 20-gauge slide action had been presented to me on the previous Christmas by my father. I had planned all summer for that hunting trip and nothing was going to change those plans.

By the time September rolled around, I was eagerly awaiting opening day—October 30, that year. Well, September was the month the cast was applied, and I was handed a pair of crutches to hobble around on for the next six to eight weeks.

How It Began

My predicament began when I was attempting to swat a wasp on the back porch of my parents' home in Ashley, near Wilkes-Barre. Chasing the wasp with a broom, I failed to notice I was heading toward the steps. When I ran off into space I tried to regain my balance and landed hard on my left foot.

The pain from my swollen foot and the trip to the hospital for X rays blotted out my thoughts of hunting for several days, but when the cast was about a week old I began thinking

about the situation. Boy, was I in a spot! All these big plans for the first day of hunting and there I was on crutches.

I asked Dad if there was any way I could get out with him to go hunting. He suggested we wait until the cast came off. I wasn't too happy about that answer and coaxed him to figure some way to get out on the first day.

Dad Gets Answer

Finally, Dad said he might be able to work out something. Mom wasn't too happy about her 14-year-old son going hunting with a broken foot, but Dad assured her I'd be all right. We planned to hunt on a farm near Shickshinny.

The big day arrived. Dad loaded our gear into the car while I hopped out of the house with my trusty crutches. By that time I was able to handle myself fairly well on one good leg and two wooden ones.

During the 19-mile ride to the farm, Dad filled me in on the hunting system we would use. I'd have to sit out the day on the crest of a hill where my coach assured me we'd see game. In my condition I had no other choice.

When we arrived at the farm I slid out of the car and pulled my crutches from the rear seat. Dad took both shotguns from the trunk.

As we began to hike up the side of a hill, several passing hunters stopped to watch in amazement. I guess you can't blame them for staring at the strange sight. After all, how many times have you come across a hunter nonchalantly heading into the woods on crutches with one foot in a cast?

After dodging the tree branches,



rocks and other obstacles usually found in the woods and on farms, we finally reached our destination. I selected a comfortable tree stump and prepared to "wait out" the game.

In case you're wondering what kind of luck a disabled hunter can turn up in Pennsylvania, I'll briefly fill you in on the "sit-out."

It wasn't long before a big bushy-tail appeared on a stone wall about 20 yards away. It jumped from the wall and scampered up a large oak. As the squirrel moved across a high limb, I shouldered the shotgun and squeezed the trigger. The big gray dropped.

In midafternoon, about the time when my seat was feeling the effects of the tree stump, a grouse flushed from a group of hemlocks on the opposite side of the stone wall. The bird leveled off about 25 yards to my right. I'll never know how I managed to score a hit on that bird (especially

with the average I've been having on grouse in recent years!) but I dropped it. And before closing out the day's hunt, I added a cottontail to my game bag. So I obviously had better luck than I ever expected.

Dad was satisfied with coaching me for the day, though he never raised his shotgun. We even flushed a beautiful ringneck before we reached our car. Dad didn't bother to raise the gun then either. We had emptied both shotguns before beginning our walk to the car, and Dad had the honor of carrying both guns.

The experience gave me an unusual story to repeat to friends. On some occasions when I've told the story to persons not interested in hunting, they've given me an odd look. They just don't understand why anyone would be so determined to spend the first day of the season in the woods. But *you* understand . . . don't you?

Book Review . . .

Churchill's Game Shooting

In some respects the most impressive part of the late Robert Churchill's exceedingly useful book on shotgunning is its positive approach. One of England's all-time great shooting instructors as well as an outstanding performer, Churchill believed that given a gun that fits, misses are caused simply by lack of confidence. Anyone who reads this book and absorbs the clear instructions cannot help but believe he can hit flying game with a shotgun. And believing it, he will do it. In essence, the Churchill method is to swing on the bird, trust the eye's ability to make the necessary forward allowance, and leave the rest to the gun. To do this successfully requires correct form, a word that antagonizes rough and ready American shooters. But the truly proficient ones know that no sport, not even golf, is more dependent upon proper stance and movement than wingshooting. Precise language and good photos make every type of shot clear. Anyone who misses one bird in twenty can profit from this book. (*Robert Churchill's Game Shooting*, revised by Macdonald Hastings, Stackpole, Harrisburg, Pa., 1967. 252 pp., \$8.95.)

And Away We Go

Mother fox squirrels commonly move their babies from one den tree to another. The mother grasps the belly skin in her teeth and the little squirrel latches onto her head and neck with all four paws.



CHUCK
RIPPER

*So You Wanta Know What It's Really Like to Run a Rabbit?
Well, Here's the Inside Dope . . .*

Straight From the Hound's Mouth

By Old Tip

As told to Paul A. Matthews

SO YOU THINK you know all there is to rabbit hunting? You think that because you've been a licensed hunter for umpteen years and because you can talk freely of the days back when, you're an expert on the cotton-tail.

Pull up a chair, buddy. And relax.

I haven't run a fuzztail for three years now. I'm deaf, almost blind an' I'm gettin' lame. All I do anymore is sprawl on the rug in front of the fireplace and think of frost-sharp mornings when the sun is comin' over the Buckhorn and the fall tang of the atmosphere whisks your nostrils clean down to your lungs. You can hear a hound bawl for half a mile, an' the whole countryside is one mad riot of blazin' color.

Rabbits? Mister, you know so little about rabbit huntin' that by comparison you an' me are as far apart as kindergarten an' college. Don't misunderstand me. I ain't sayin' you don't know somethin' about the game—I'm just pointin' out that you've got more to learn than you ever dreamed about.

For example, do you actually believe that a dog is on a rabbit every time he starts buglin'?

Brother you *are* a dreamer! Maybe some hounds, but not all of us.

Look at it from my point of view. I've got a boss who sees to it I get plenty of food, water and exercise. I have my own private sleepin' quarters—in the house—an' visitin' kids don't yank my tail or ears or poke fingers in my eyes. In short, I'm treated like a

member of the family. I live well, I'm respected and I'm expected to perform when my time comes.

Now—you think I'm going to let the boss down? No, sir! When he lets me out of the car, I hang around just long enough for him to load the shotgun an' start in the general direction of where he wants to hunt. An' then I take off for the nearest hedge or thicket, an' I'm not in there thirty seconds before I start whippin' my tail and singin' out "Rabbit on the Trail."

Boss Perks Up!

Man how that makes the boss perk up! I can see a grin slash across his face, an' I can hear the old wheels grindin' like he's tryin' to figure out which way the rabbit's going to go. I bear to the left a bit an' the boss goes gallopin' off across the field tryin' to head the rabbit off at the corner in the fencerow. I slow down to give him time to get there an' when I figure he's all set, I start bawlin' like I got my nose stuck to the south end of a fuzztail. And then just before I get within shootin' range, I take a sharp right straight down the hill into the slashin'.

You think that makes the boss mad? Listen, buddy—he's pleased as punch! He *knows* he almost got the rabbit that time. He was just a bit too slow movin' into position.

So now he moves back to where we put the rabbit out to begin with, thinkin' the rabbit's goin' to circle an' come back up the hill. I just slow down an' start workin' the slashin',

knowin' it's only a matter of time 'til I really find a rabbit.

I finally find one—a short-eared woods rabbit. And you know how they run. They don't cut a tight circle like a field rabbit; they run gosh-bent for election, and the faster you push them the bigger circle they make. Usually, they like to do their runnin' in the woods, but for some reason this one headed for the hedge that went up the hill to where the boss was waitin'.

Ideal Situation?

I suppose you think that was an ideal situation. Buddy—have you got a lot to learn!

You think I wanted the boss to get the rabbit that easy? Never! Remember—huntin' is a sport, and to be a sport requires that it must have a challenge. When it quits bein' a sport an' quits bein' a challenge, people are goin' to quit huntin' and a dog like me is going to be out of a job.

No job—no home. It's just that simple.

So, buddy, I get on that fuzztail and I push him 'til my tongue's hangin' out by the yard and the hedgerow's goin' past me like a freight train by a hobo. I push that woods rabbit up the hill like he's runnin' from a hot poker, an' I keep lookin' ahead—strainin' my eyes to see the boss. And then I spot him—standin' on an old pine stump that's too small for both of his feet and too rotten for his overweight. I see the shotgun come up, and just as I kick into overdrive, I hear him automatic—three shots so fast they're like one—and I see him go over backwards, arms flailin', feet kickin', with a bellow that sounds like a bull elk in a bear trap.

Man, that's sport!

I slow down now and settle into an easy run that takes me up over the hill and down the other side into the woods along Mallory Run. Here the woods are cool and the brush is thick with some open spots. It's the kind of a spot where a rabbit can run for an

hour without bein' seen; where the hills will echo my voice like the bugle notes in the old Death Valley Days program when it was on the radio instead of TV. This is the kind of place I like.

I chopped all the way down the hill into Mallory Run—not because I was runnin' the rabbit, but because I wanted the boss to keep interested. If there's anything I can't stand, it's a boss who leaves you while you're runnin' a rabbit so's he can go off grouse huntin' or some other fool thing. And then six hours later when he finally remembers and comes back, he wonders why you're not waitin'. Or why you get lost or maybe why you run deer.

Anyhow, like I'd planned, the boss followed and while he stood on an old stone pilc, I went to work on the rabbit.

Stickin' your nose on a hot rabbit track is like walkin' into a coffee-steamed kitchen on a frosty morning. The scent is pungent and overpowering—like there's nothing else in the world that's quite as good. I let out my deep-throated bugle call from "Rabbit on the Trail," and plunged into a tangle of briars and grapes and black granite boulders.

Man, what a rabbit!

Knew Every Trick

This old boy knew every trick in the book—the hairpin double-back, the figure eight, the right-angle jump and the water walk. He ran a log like he was cousin to a coon, and he took sheer delight in followin' along an old stone row where the scent would be light. I'd bet my bottom biscuit he'd have lost any blue ribbon show dog in the first hundred yards, and by golly there were times I even began to have doubts about myself.

He worked downhill toward the creek bottom, and I knew if I pushed him hard he'd cross and go up the hill on the other side. That, I didn't want. So I held back a bit and cut



IT'S A GOOD SHOT. And a minute later the boss is runnin' my floppy ears through his fingers. He'll long remember this day . . . this rabbit.

down on the music to give him plenty of time to make his turn at the creek. When I was certain he'd turned, I started pushing again as he headed back up the hill in the general direction of the boss.

I knew I'd played this rabbit—or maybe I should say the boss—almost to the limit. Because even though the boss had had shooting, people are an impatient lot when it comes to dealin' with animals.

So instead of stayin' right on the rabbit track, I got downwind about twenty feet and worked parallel to it. This took me within' sight of the boss, and of course I chopped and whipped my tail and made like the rabbit was ready to bust out in front of me any second.

Man, you ought to have seen the boss! He kinda crouched on that rock pile like he didn't know whether to sit down or jump. His eyes bulged like a toad-frog, and I swear I could hear his heart pounding sixty feet away. He could almost taste that rabbit—

almost see it every time the brush moved!

But he held that shotgun with the muzzle skyward, and brother—that's what you've got to watch for in a boss. Some of 'em ain't too particular.

After I got past the boss, I let the rabbit have his own way. All I did was tail along and mark out the trail. Once I thought he was going up over the hill, but instead he pulled a hairpin double-back and I knew I had him.

How the Hills Will Ring!

Oh, how the hills will ring when a real gone hound shoves his nose smack on a fuzztail! The sounds echo and re-echo along Mallory Run — bouncing back an' forth like a cherished memory fading in the past. And while I'm pushing the rabbit for all I'm worth—running pell-mell down a wooded slope with my legs pumpin' like connecting rods on an old steam locomotive—the boss gets ready for that one instant.

He's crouched again—left foot forward, gun held away from the body and his forefinger on the safety. He spots the rabbit now—a brown fuzz hurtling through the undergrowth . . . twisting . . . darting . . . turning—around boulders, trees and stumps with his feet reaching out for the earth ahead. And then the shotgun comes up—easy and graceful but so swift it's a blur — and the boss presses the trigger the instant the stock touches his shoulder.

I know it's a good shot.

I can see the boss relax. Hear him call me. And a minute later he's runnin' my floppy ears through his fingers. I know he'll remember this day—this rabbit. That long after I'm dead an' gone, he'll look into the flames of the fireplace, an' ruminate about Old Tip—the best rabbit dog to ever draw a breath.

Yes, there's a lot to runnin' a rabbit, mister. And anytime you think not, get down on your hands and knees and try it.



The Nose-T

HOW LONG since you put that can follow whispers your nose is not as sensitive as it can give moments of pure fragrant scents found out of odors is to fail to enjoy outin

I enjoy a long list of delicious odoriferous mints that scent damp days, mowed hay, fresh wood smoke from campfires. I fragrance from beds of wildflo

Let your nose know nature rein. The air will be filled with lizing scents perceptible. Stop hunting game with a nostalgic

THE HUNTER'S TIME afield gives him good opportunity to appreciate the spicy scent of frost grapes, the aroma of wild mint, even the fragrance of freshly sawed wood.



g Outdoors

work? Hunters praise hounds
cent along old trails. Though
s, or even the nose of a deer,
a referring to the many spicy,
ss or minimize these delicious
fullest.

or scents. Mine include the
hot afternoons, pine trees on
ood, ripening frost grapes and
apple blossoms and the spicy
om from summer through fall.
os afield this fall, give it free
er vapors which make tanta-
ptice. Inhale deeply. Then go

By Don Shiner



NEWLY MOWN HAY always arouses feelings of nostalgia, particularly among city dwellers, but perhaps the most appealing odor of all outdoors is that of burning leaves or campfires, for this seems to symbolize man's unbreakable relationship with his environment.





FIELD NOTES



Take That!

CRAWFORD-ERIE COUNTIES—Blaine Frost, farm game manager in Crawford County, related the following: "While discussing the problem of road-killed deer with farm-game cooperator George Gray, Mr. Gray said once he had stopped his car to let some deer cross in front of him. One of the deer stopped and looked right at George, then kicked out the parking light and ran off through the woods." That's what you call appreciation. — Land Manager J. C. Hyde, Townville.

Bald Eagles

ROSS LEFFLER SCHOOL OF CONSERVATION—On a trip to the Pymatuning it was gratifying to see that our national symbol, the bald eagle, is living and reproducing in relative safety. If the ideal habitat is maintained and the amount of pesticides used in that part of the state is kept to a minimum, the eagle should be around for our children to see and enjoy.—Trainee D. W. Jenkins.

What Would You Do?

SOMERSET COUNTY—A Deputy's wife performs many services for the Commission and conservation while taking calls or meeting those who knock on the door. One day an elderly man and his wife stopped at a Deputy's home to report that two men were cleaning out a deer in a stream nearby. Her husband was at work, so she hurriedly made calls to the homes of two other Deputies and the District Game Protector. No answer. Uncertain as to what she should do, she finally asked the elderly couple if they would drive her to the area. She still wondered just what she would do when she arrived. Finally she saw two men crouched along the stream, using a minnow seine to obtain bait for fishing. There was no sign of any deer. When her husband returned from work, she was hesitant to tell him about the incident, fearing she may have done wrong. What would you have done?—District Game Protector J. Burns, Central City.

Plenty of Bucks

CENTRE COUNTY—Again it looks as though there will be no shortage of bucks. Many people were concerned about the great number of bucks killed last year and were expecting a year or two of "slim pick'ns." The chance of bagging a buck this fall appears to be almost as good as last year. Deputy Weaver reported seeing eight good-sized bucks together at the Game Commission's Howard Nursery and was wondering if George Weller (superintendent) was running a deer or tree nursery.—District Game Protector D. Sloan, Bellefonte.

Deer Research

ROSS LEFFLER SCHOOL OF CONSERVATION—While on a tour of the state, one of our stops was at the deer pens at the Pennsylvania State University Wildlife Research Center. It was amazing to see all the time, money and effort spent on research on the white-tailed deer. This would be an educational experience for those who say, "Bring in some Michigan bucks and cross-breed them with the deer in Pennsylvania." No matter what they may say, a Michigan buck is just a male deer from Michigan—nothing more, nothing less. For those who are sincerely interested in the deer herd in Pennsylvania, this trip to the deer pens will be well worth their time.—Trainee J. M. Kazakavage.

Hat Returned

VENANGO COUNTY — Last December Deputy Lowros lost his Stetson uniform hat while patrolling during the deer season. A story of how it was lost was carried in the **GAME NEWS** as a field note. Recently a man appeared at Deputy Lowros's door, and asked him if he lost his hat. The man was going to keep it as a souvenir but decided to return it after eight months. Jim is glad to have it back and is again wearing it on patrol.—District Game Protector L. E. Yocum, Oil City.

Game on Mined Area

BEDFORD COUNTY—Evan Jones told me that there was a bear, with one cub, seen recently on State Game Lands No. 198. I have seen wild turkeys in this same area. It is a little unusual, considering this same area has been strip mined within the last year.—Land Manager D. L. Stitt, New Enterprise.

Unlikely Nesting Site

A banded hen mallard this summer hatched all 13 eggs in her nest near the College of Human Development Building on the Penn State University campus, a long distance from the nearest water. Mike Ondik, wildlife research technician at Penn State, transferred the entire duck family to a rural pond where the brood could be reared without crossing busy streets and highways. The mallard had been liberated in Snyder County in 1963.—C. R. Studholme, U. S. Fish and Wildlife Service.



Flat Breakfast

FRANKLIN COUNTY — John Elliott, who lives along the Conococheague Creek, was having trouble with coons destroying mallard duck nests behind his home. I went out to set some traps, and found pieces of chewed-up plastic around the nest. John explained he and his family had decided to fool Mr. Coon. They took the real eggs from the nest one evening and replaced them with plastic Easter eggs. The next morning he found the chewed-up plastic eggs. I bet that coon thought they were about the toughest and most tasteless eggs he had ever found.—District Game Protector J. D. Mort, Chambersburg.



Deodorant for Bridegroom

MONTGOMERY COUNTY—Deputy Dave Wentling found a small skunk and wanted to keep it as a pet so he decided to undertake the job of descenting it himself. The operation was successful, but left a lingering remembrance on Deputy Wentling. I'm quite sure Dave's new bride of two weeks isn't at all crazy about his new type of deodorant!—District Game Protector R. G. Clouser, Lansdale.

What's a Militia?

MIFFLIN COUNTY—Anti-firearms spokesmen are making a desperate attempt to say that the only militia in the United States, as meant under the Second Amendment, is the National Guard. (Pay attention Senators.) Let's look into a dictionary . . . Webster's Third New International Dictionary, Volume II, 1961, **MILITIA** . . . (1) A body of citizens enrolled and drilled in military organizations other than the regular military forces, and called out only in emergencies. (2) U. S. able-bodied male citizens between 18 and 45 years of age not members of the regular military forces, and legally subject to call for military duty. Funk & Wagnalls Standard College Dictionary, 1963 . . . **MILITIA** . . . the whole body of adult male citizens capable of bearing arms.—District Game Protector J. D. Moyle, McVeytown.

Insecticides and Insects

FULTON COUNTY—I was literally driven from the woods one evening by a horde of insects, head flies, black flies, deer flies, mosquitoes, chiggers and a few others. The repellent I used reduced their attack to several degrees above tolerable. I sat and visited with an old, observant woodsman friend. He commented that about all man has done with his potent insecticides is to kill off many of nature's bug eaters. He cited as examples the fewer bats seen darting about at dusk, and the fact that he had seen only two toads all summer. Just how sound his argument is, I don't know. I do know that this man is far more of a woodsman than I am. Bats and toads have never been of much concern to me; so I don't realize I'm not seeing them until someone tells me.—District Game Protector C. E. Jarrett, McConnellsburg.



Fox Chases Cat

BEDFORD COUNTY—Carl Judy, a safety zone cooperator from Bedford, noticed a fox chasing a cat across the field behind his home one evening. I figure it must have been a very hungry fox or a very angry one due to the infringement on his hunting territory.—District Game Protector C. J. Williams, Bedford.

Proceed With Caution

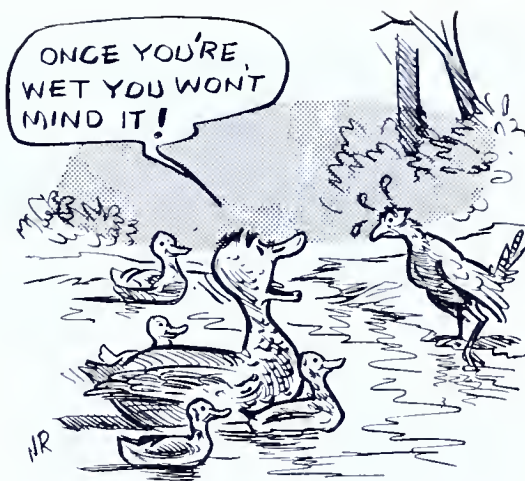
CLARION COUNTY — I know everyone has seen the “Deer Crossing” signs throughout the state, but the other day I turned around in a driveway in Paint township and in the driveway there was a sign that said “Chipmunk Crossing.” Upon investigation, I found out the sign was put there to keep the chipmunks from being run over.—District Game Protector J. M. Lavery, Clarion.

Deputy Nabs Escapee

LYCOMING COUNTY—Food and Cover workers Milton Boden and William Reed had just finished repairing a gate on State Game Lands No. 252 when they saw a man walking along the edge of a field. When the man saw them in the truck, he dropped to the ground and started to crawl toward the woods on his stomach. Boden, who is also a Deputy Game Protector, went to the area on foot and finally located the man, a prisoner who had walked away from the federal penitentiary nearby. Deputy Boden returned the man to the prison. Penitentiary authorities hadn't discovered that the prisoner had escaped.—Land Manager D. E. Watson, Williamsport.

Yes, We Have Wildcats

CLEARFIELD COUNTY — While at the Game Commission Exhibit at the Clearfield County Fair, I noticed unusual interest in the wildcat. After seeing a bobcat pelt in the trapping exhibit, many fairgoers asked if there were any of the cats in the area. Some seemed amazed that I had observed one north of Curwensville and had heard reports of other sightings in the last couple of years.—District Game Protector J. R. Furlong, Ramey.



Explain, Please

CRAWFORD COUNTY — Found pheasant eggs in a duck nest in vicinity of Tamarack Lake; can imagine confusion at hatching time.—District Game Protector J. R. Miller, Meadville.

Marked Turtles

PERRY COUNTY — What are the chances of finding a land turtle a second time? Charles C. Cooper, now deceased of Millerstown, marked a number of turtles. His son, Ross C. Cooper, who lives on the same farm, last year found two of the turtles, one marked 1934 and the second one marked 1950. This year he found a third turtle marked 1931.—District Game Protector J. I. Sitlinger, Newport.

Game on Game Lands

ROSS LEFFLER SCHOOL OF CONSERVATION—On a recent hike through State Game Lands No. 54, I sighted a large tom turkey, several well-built bucks, 2 adult red foxes, numerous woodchucks, a great variety of birds, and a set of good-size bear tracks. This all took place in one hour, and within a one-half square mile area. Who “sez” there’s no game on the Game Lands? — Trainee G. J. Zeidler.



A New Sport?

ARMSTRONG COUNTY—One evening while calling for red fox in the Muzzett area of Forest County we had an unusual experience. The record was playing when I heard a friend of ours shoot. Russ Werner of Pittsburgh was about 80 yards from the call and, having heard a noise behind him, turned slowly, only to come face to face with a 51-inch, black phase, timber rattler that was apparently coming in to the call. We assume that the snake was coming in to clean up any possible leftovers. When shot, the snake was only 5 feet from Russ and was coming directly towards the call. Who knows—we may have a new and interesting predator calling sport in the making.—District Game Protector D. C. Madl, Kittanning.

New Rifle, Pistol Range

GREENE COUNTY—Through the fine cooperation of my deputies we have erected a 100-yard rifle range with a right- and left-hand benchrest, and a 25-yard pistol range. It is located one and a half miles west of Garards Fort on Route 616, on State Game Lands No. 223, adjacent to the big white building. Sportsmen who have used it have expressed their appreciation.—District Game Protector T. Vesloski, Carmichaels.

Pardon the Interruption

BERKS COUNTY—A recent meeting of the Shartlesville Fish and Game Association was brought to a sudden halt by the president when he noticed an unwanted visitor in the group. After the five-foot black snake was evicted, business was resumed.—District Game Protector J. A. Leiendecker, Reading.

Always a First Time

ERIE COUNTY—I set a large box trap with a heavy metal door to remove a skunk that was living under a house. I have removed many of the little stinkers in this manner, and hauled them away with no trouble and no odor. The next day, the skunk was in the trap, and I hauled trap, skunk and all away in my car to a remote spot to release the animal. I lifted the metal gate and he started out of the trap; the gate slipped out of my grasp and fell, striking him across the back of the neck. I was standing in front of the screened end of the trap and the large mesh screen was not very effective. There is always a first time, and every job has its hazards.—District Game Protector E. D. Simpson, Union City.

Unusual Sport for Duck

CRAWFORD COUNTY—This summer we were hauling a load of ducklings from the Waterfowl Farm to release on Clear Lake. We had just crossed Route 8 on Route 77 when we heard a horn honking behind us. An Ohio car was stopped at the intersection, and the driver was pointing to a duckling which was waddling across the busy intersection. We captured the duckling in the driveway of Firth's Service Station, while all traffic stopped to watch the operation. Land Manager Jim Hyde, who was in the line of traffic and came over to help, asked if that wasn't a funny place to stock ducks. I had to agree.—District Game Protector W. E. Lee, Titusville.



CONSERVATION NEWS



108 Triple Trophy Winners

THE Pennsylvania Game Commission's coveted Triple Trophy Award was earned by 108 hunters during the 1967-68 seasons, according to Information and Education Chief Roy W. Trexler.

The Triple Trophy Award is available to hunters who bag a wild turkey, an antlered white-tailed deer and a black bear during the same hunting license year. It was the first award of its kind in the nation. Actually, Pennsylvania is one of the few states where it is possible to harvest all three species.

This is the second year for the award. The 108 winners considerably surpass the 67 who qualified during the first year of the program.

"There is a rather logical explanation for the big increase in winners this year," Trexler said. "No less than 33 of the winners bagged their turkeys during Pennsylvania's first spring gobbler season in May. If there had been no spring gobbler season, the number of winners both years would have been nearly the same. The spring gobbler season and the Triple Trophy program certainly gave each other a big boost."

Trexler said that two hunters who won Triple Trophies during the first year of the program qualified for their second such award during the past seasons. The repeaters were Sam Lemmo of Erie and Carl Steinhäuser, Jr., of Custer City. Steinhäuser was one of the hunters who bagged a turkey during the spring gobbler season. In another interesting sidelight, Jessie Runkle of Brogueville and his son, Gerald Runkle of Dover, made up the

first known father/son combination to win.

Two nonresidents, one from Ohio and the other from New York, qualified for the Triple Trophy Award. No nonresidents won during the first year of the program.

No woman has yet won this award.



JESSIE AND GERALD RUNKLE, shown with latter's cinnamon bear, are first father/son combination to win Triple Trophy Award.

Hunters reported harvesting a total of 568 black bears in the state last fall. This means that nearly 20 percent of the successful bear hunters also bagged a turkey and a buck.

A shoulder patch and a certificate signed by the Executive Director of the Pennsylvania Game Commission are presented to each Triple Trophy Award winner.

Here are the 108 winners of the Triple Trophy Award for the 1967-68 hunting seasons:

Alexander, John M.—R. D., Liberty.
Ard, Ray M., R. D. 2, Lewisburg.



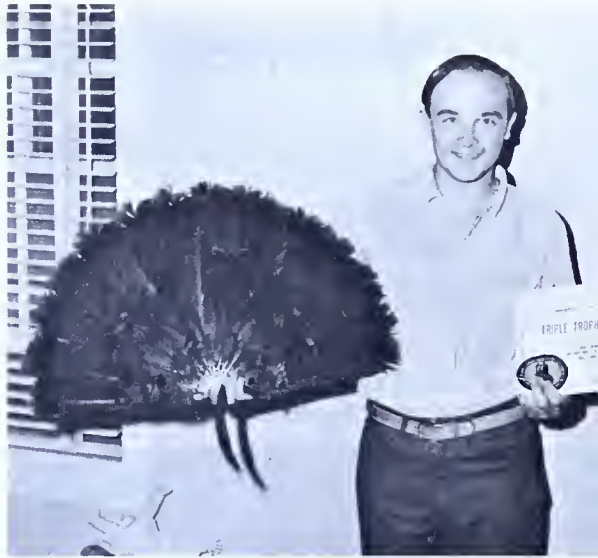
PGC Photo by Fred Servey

WALTER SIMON of Gibsonia, right, receives his Triple Trophy Award from DGP Richard Belding during meeting of Allegheny County Sportsmen.

Biel, Paul J.—Box 203, Wilcox.
 Blum, Ben E.—Box 101, Tionesta.
 Buck, John I.—359 West Race Street, Somerset.
 Buckley, Gerald C.—R. D. 4, Danville.
 Chapman, Donald—Box 48, Hamlin.
 Cherry, Wallace L.—R. D. 2, Box 312, Tyone.
 Collins, Elbert L.—R. D. 1, Box 52, Three Springs.
 Coulter, John—Box 266, Morrisdale.
 Craig, Robert—R. D. 1, Milan.
 Crawford, Lewis P., Jr.—R. D. 1, Sugar Run.
 Danvir, Arthur J.—Box 106, Grampian.
 Delio, Nick—225 Broad Street, Brockway.
 Dileo, Frank J., Jr.—203 N. 2nd Street, Allentown.
 Dively, Abraham L.—440 Spang Street, Roaring Spring.
 Drake, Robert—1222 Academy Street, Scranton.
 Drakula, David—R. D. 1, Clear Creek, Emporium.
 Eakin, Robert L.—R. D. 3, Greenville.
 Eby, Roy W., Jr.—433 N. Hanover Street, Hershey.
 Elliott, Timothy—Box 161, East Smethport.
 Enders, Lee E.—R. D. 2, Halifax.
 Ent, Robert W.—32 Box Lane, Warren.
 Fairman, James A.—Creekside.
 Feathers, John E.—R. D. 1, Box 34-B, Imber.
 Fink, Charles I.—2107 Glad Avenue, Tyone.
 Finkenbinder, Paul H.—R. D. 2, Newville.
 Fiorini, Donald—R. D. 1, Dushore.

Fisher, Paul E.—601 E. Caroline Avenue, Altoona.
 Fisher, Robert E.—610 North Michael, St. Marys.
 Fisher, Stephen S.—R. D. 1, Willow Street.
 Flatt, Dennis D.—15 Branch Street, Warren.
 Frye, Robert D.—97 Williamson Road, Greenville.
 Gelston, B. H.—349 N. 17th Street, Camp Hill.
 Gingerline, Frank G.—R. 1, Kunkletown.
 Glass, James M.—202 N. Broad Street, Ridgway.
 Habblett, Forrest—R. D. 5, Box 86, Shavertown.
 Hall, Thompson, 526 Academy Street, Peckville.
 Harshbarger, Harold—R. D. 1, Kersey.
 Heidlebaugh, Raymond, Jr. — R. D. 1, Hallam.
 Hendricks, Daniel E.—Rockton.
 Hitz, George R.—428 Ebenezer Road, Lebanon.
 Hoover, Warren, Jr.—6190 Tyler Drive, Harrisburg.
 Hough, James W.—1548 Walters Street, Monongahela.
 Houseworth, William L.—R. D. 3, Bedford.
 Hribar, Richard L.—14 Woodlawn Avenue, Coudersport.
 Kalp, Caton—Jones Mills.
 Keiffer, Charles R.—P. O. Box 122, R. D. 1, Watsontown.
 Kendrick, Harold—Covington.
 Kimble, Leslie H.—Liberty.
 Leach, James—51 Pine Street, Galetton.
 Leeper, Charles—R. D. 1, Acme.
 Lemmo, Sam—1130 W. 28th Street, Erie.
 Lenox, Ronald G.—Box 111, Dagus Mines.
 Levine, James B.—R. D. 1, Clearfield.
 Lewis, Wilbur B.—R. D. 1, Weedville.
 Lundgren, Keith M.—R. D. 5, Kittanning.
 Machmer, Russell V. — 438 N. Center Street, Canton.
 Mack, James W.—523 First Street, DuBois.
 Mackey, James—839 Bolivar Drive, Bradford.
 Mague, James L.—R. D. 2, Kane.
 Manwiller, Russell R.—R. D. 1, Temple.
 Marquardt, Alton—R. D. 3, Williamsport.
 Martin, Elwood G., Jr.—Julian.
 Martin, Fred D.—414 S. St. Marys Street, St. Marys.
 Mathias, H. Arnold — 731 S. Harrison Street, Palmyra.
 McGough, Ellwood R.—Box 26A, Wilmore.
 McKeirnan, Robert—P. O. Box 76, Crosby.
 McKinley, Henry W., Jr.—R. D. 1, Howard.
 Miller, George J.—R. F. D. 1, East Greenville.
 Miller, Harvey A.—Schellsburg.
 Morelli, Ettore — 2134 Babcock Blvd., Pittsburgh.
 Mummert, Leon—R. D. 3, Hanover.

Nelson, Richard D.—R. D. 2, Coudersport.
 Noll, William W., Sr.—P. O. Box 54, Mont Alto.
 Pisarchick, George — 172 Broad Street, Brockway.
 Podrasky, Samuel M.—R. D. 1, Box 300, Portage.
 Pollino, Raymond—R. D., Kersey.
 Randall, Phillip L. — 601 Fourth Street, Towanda.
 Randolph, John R., Jr.—Milroy.
 Rhodes, Burnell O.—R. D. 5, Hanover.
 Rogers, Donald E.—125 Kent Drive, Pittsburgh.
 Runkle, Gerald R.—2520 Berkshire Lane, Dover.
 Runkle, Jesse W.—Brogueville.
 Sawyer, William R.—Fourth Street, Summerdale.
 Scherich, Thomas E.—R. D. 1, Prosperity.
 Schrecengost, Ronald J.—Box 36, Hillsdale.
 Seeley, James L.—R. D. 2, New Albany.
 Sherin, Bernard — 38 E. Franklin Street, Shavertown.
 Siegel, Ernest R.—164 Lawrence Street, Wilkes-Barre.
 Simon, Walter A.—R. D. 2, Box 158A, Gibsonia.
 Smith, Robert W., Sr.—R. D. 2, Mobile Acres, Wellsburg, N. Y.
 Smith, Ronald H. — 1118 Lincoln Way East, Chambersburg.
 Steinhauer, Carl, Jr.—Box 36, Custer City.
 Stevens, Carlyle—Star Route, Moscow.
 Stiffler, Allen G.—R. D. 1, Box 354, Hollidaysburg.
 Stoner, Donald W.—45 Walton Street, York Haven.
 Vandruff, James C.—Covington.
 Wagner, Mark K.—R. D. 1, Hershey.
 Walk, Blair A.—3621 Pine Avenue, Erie.



PGC Photo by Joseph Chick
JOHN R. RANDOLPH, JR., Milroy, proudly displays tail and beard of spring gobbler which helped him win Triple Trophy Award.

Waters, Maurice, Jr.—R. D. 1, New Providence.
 Whorl, Sidney—Box 59, Star Route, Lock Haven.
 Wilson, R. N.—101 E. Main Street, Mechanicsburg.
 Winch, Charles E.—1625 Wiles Cort Road, Cortland, Ohio.
 Yale, Legrand—Windfall Road, St. Marys.
 Yohe, Ray W.—700 Harrisburg Street, Mt. Rt., Dillsburg.
 Yost, Jack, Rev.—R. D. 2, Berwick.
 Youngkin, Donald—Coalport.

\$200,000 to Be Distributed in Lieu of Game Land Taxes

More than \$200,000 will be distributed to county treasurers and political subdivisions by the Pennsylvania Game Commission this year. The payments will be made in lieu of taxes for State Game Lands located throughout the Commonwealth. There are more than 1,000,000 acres of Game Lands in the Keystone State.

The Game Commission provides a total of 20 cents for each acre of Game Lands to local governmental units. Of the 20 cents per acre, eight cents is forwarded to the county, another eight cents is presented to the local school district, and the remaining four cents goes to the township board of road supervisors.

Funds for the payments are made available through the sale of Pennsylvania hunting licenses.

90 Days of Looking

Newly-hatched bald eagles open their eyes in four hours and are ready to fly in three months.

Antlerless Deer License Procedures Are Outlined

COUNTY TREASURERS throughout the state began accepting applications for antlerless deer licenses on September 16. They will start issuing the licenses on Monday, November 11. Dates for the 1968 antlerless season are December 16 and 17.



DURING THE PAST SEASON, 66,147 antlerless deer were taken in Pennsylvania. More licenses are available this year than last, and another good harvest is expected.

Each county treasurer decides how applications are to be received and how licenses are to be issued for his own county. The treasurers operate within general rules agreed to by the County Treasurers Association, the Pennsylvania Revenue Department and the Pennsylvania Game Commission.

The cost of an antlerless deer license is \$1.15, and may be issued only to a holder of a current resident or non-resident hunting license. If the antlerless license is to be mailed, the remit-

tance should include an additional ten cents for postage.

Nonresidents may not apply for an antlerless deer license this year before November 16.

Each application must show the 1968-69 hunting license number. Envelopes containing applications should be marked "Antlerless Deer Application."

Application forms are available from any license issuing agent, county treasurer or the Pennsylvania Game Commission.

An antlerless deer license is valid only in the county in which it is issued. Only county treasurers are authorized to issue antlerless licenses.

Each county's quota of antlerless licenses was established by the Game Commission in June. Statewide, 482,550 antlerless licenses were authorized for this year by the Game Commission. The quota is 37,150 more than last year and an all-time record.

Pennsylvania residents who are members of the armed forces on full-time active duty or who have been honorably discharged within 60 days of the date of application for an antlerless deer license can be accommodated under a law enacted last year. County treasurers may issue licenses to these individuals if the county's quota of antlerless deer licenses has been exhausted. These licenses are available only to individuals who could not anticipate military leave or discharge and file applications for an antlerless license during the regular filing period.

The following table summarizes the procedures established by the various county treasurers for receiving applications and issuing antlerless deer licenses for 1968.

How to File Application for 1968 Antlerless Deer Licenses

APPLICATIONS ACCEPTED IN PERSON ONLY

(Licenses will be mailed)

Elk	(6)
†Montour	(6)
Venango	(3)

APPLICATIONS ACCEPTED BY MAIL OR IN PERSON

*(Licenses may be picked up in person or
will be mailed)*

Allegheny	(6)
Beaver	(6)
Bedford	(5)
Chester	(6)
Delaware	(6)

(All licenses will be mailed)

Adams	(6)
Butler	(6)
Cameron	(6)
Carbon	(2)
Clinton	(6)
Erie	(3)
Fayette	(4)
Fulton	(5)
Greene	(6)
Huntingdon	(6)
Jefferson	(6)
Juniata	(4)
Lancaster	(6)
Lawrence	(6)
Lehigh	(6)
Lycoming	(6)
McKean	(6)
Mercer	(6)
Mifflin	(6)
Montgomery	(6)
Northumberland	(1)
Pike	(6)
Snyder	(2)
Sullivan	(6)
Susquehanna	(6)
Tioga	(6)
Union	(6)
Warren	(6)
Washington	(6)

Wayne	(6)
Wyoming	(6)
York	(4)

APPLICATIONS ACCEPTED BY MAIL ONLY

(Licenses will be issued by mail only)

Armstrong	(6)
Berks	(1)
Blair	(1)
Bradford	(6)
Bucks	(6)
Cambria	(1)
Centre	(6)
*Clarion	(6)
Clearfield	(3)
Columbia	(6)
Crawford	(6)
Cumberland	(1)
Dauphin	(6)
*Forest	(6)
Franklin	(2)
Indiana	(1)
Lackawanna	(6)
Lebanon	(1)
Luzerne	(6)
Monroe	(1)
Northampton	(3)
Perry	(6)
Potter	(6)
Schuylkill	(4)
Somerset	(4)
Westmoreland	(2)

†Montour County will accept 100 by mail only, remaining in person.

*All envelopes must carry return address and be marked "Doe Application" or "Antlerless Deer Application" and number of applications enclosed. ALL APPLICATIONS WILL BE ACCEPTED ONLY ON AND AFTER MONDAY, SEPTEMBER 16, 1968.

ALL LICENSES WILL BE ISSUED ON MONDAY, NOVEMBER 11, 1968.

Numbers in parentheses indicate number of applications accepted by the County Treasurer in each county. TOTAL NUMBER OF ANTLERLESS LICENSES IS 482,550.
—Compiled by the County Treasurers Association.

1968 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

Species	Open Seasons First Day	Last Day	Daily Bag Limits	Maximum Possession Limits	Shooting Hours
DOVES	Sept. 2	Nov. 9	12	24	12 o'clock noon, prevailing time, to sunset.
†RAILS (Sora and Virginia)	Sept. 2	Nov. 9	25††	25††	} One-half hour before sunrise to sunset (except on October 26 when the opening hour will be 9 a.m. EDT).
GALLINULES	Sept. 2	Nov. 9	15	30	
WILSON'S or JACKSNIPES	Oct. 1	Nov. 19	8	16	
WOODCOCK	Oct. 12	Dec. 14	5	10	
†NO OPEN SEASON—King, Clapper and Yellow Rails.					
††Singly or in the aggregate of species.					
DUCKS	Oct. 12	Nov. 30	3°	6°	} One-half hour before sunrise to sunset (except on October 26 when the opening hour will be 9 a.m. EDT). EXCEPT—Controlled Shooting Sections of Pymatuning Waterfowl Area—one-half hour before sunrise to 12 noon (prevailing time) on Monday, Wednesday, Friday and Saturday beginning October 12, 1968.
COOTS	Oct. 12	Nov. 30	10	20	
MERGANSERS	Oct. 12	Nov. 30	5°°	10°°	
GEESE	Oct. 5°°°	Dec. 13	2°°°°	4	
BRANT	Oct. 5	Dec. 13	6	6	
EXCEPTIONS: ° Daily bag limit of 3 ducks may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 2 black ducks; 2 mallards. Maximum possession limit may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 4 black ducks; 4 mallards. Special scap season, restricted to waters of Lake Erie and Presque Isle Bay, December 2 through December 17, daily bag limit of 5 and possession limit of 10 scap.					
°° Not more than 1 hooded merganser daily, or 2 in possession.					
°°° Crawford and Erie Counties, including Pymatuning Waterfowl Area—October 12.					
°°°° Daily bag limit in Crawford County—1 Canada goose.					

EXCEPTIONS: * Daily bag limit of 3 ducks may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 2 black ducks; 2 mallards. Maximum possession limit may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 4 black ducks; 4 mallards.
 Special scoup season, restricted to waters of Lake Erie and Presque Isle Bay, December 2 through December 17, daily bag limit of 5 and possession limit of 10 scoup.
 ** Not more than 1 hooded merganser daily, or 2 in possession.
 *** Crawford and Erie Counties, including Pymatuning Waterfowl Area—October 12.
 **** Daily bag limit in Crawford County—1 Canada goose.

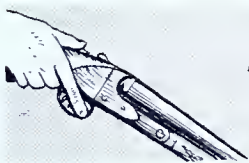
ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, OCTOBER 26, 1968, IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR ANIMAL, INCLUDING MIGRATORY GAME, PRIOR TO 9 A.M., EDT.

(NO OPEN SEASON—SNOW GEESE AND SWANS. NO SUNDAY HUNTING.)

MIGRATORY BIRD HUNTING METHODS—Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; bird calls except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both, when the motor of the craft has been completely shut off and/or the sails fuiled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. Prohibited: Trap, snare, net, crossbow, rifle, pistol, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; livestock used as a blind or means of concealment; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying or stirring up migratory birds or waterfowl; salt or bait.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (brant, ducks, geese) unless at the time of such taking he has on his person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his signature written across the face of the stamp in ink. A person who has not reached his 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, or Wilson's or jacksnipe. Federal Migratory Bird Stamp available at U. S. Post Offices.

NOTE: One fully feathered wing must remain attached to each migratory bird (except doves) while being transported.



HUNTER SAFETY EDUCATION



Set Your Sight on Safe Hunting

By Conservation of Vision Committee of the Pennsylvania Academy
of Ophthalmology and Otolaryngology

IN THE PLEASURE of wandering Pennsylvania's forests and fields, and the thrill of the hunt, no one likes to think about hunting accidents. But they do happen.

Too many of these accidents are related to vision, the eye physicians who are members of the Pennsylvania Academy of Ophthalmology and Otolaryngology believe. Physically faulty vision causes some accidents, and others are caused by wrong interpretation of what the eye sees.

Color can be a big factor in hunting safety, yet it won't scare off the animals you are hunting.

If you are an old-time hunter, you will remember the days when the hunter's "uniform" was a khaki canvas coat and pants. Then came red hunter's caps, or a patch of red cloth pinned under your license to provide a bright spot of color. Then the red jackets and full suits.

Wearing red was a step in the right direction; but in the rain normal red quickly darkens and blends into the shadows and rusty browns of an autumn forest. You tend to disappear into the background almost as thoroughly as a deer.

In recent years, development of fluorescent orange dyes has made possible the easiest-to-see clothing ever developed for hunters. This color seems almost to glow, even in twilight or heavy shadows. Yet you needn't worry about this vivid color startling game. You may stand out like a lighthouse to other hunters, but the animals you are hunting are either color-

blind or have very limited color vision, according to our best information.

It is difficult to determine exactly how much color or what colors an animal sees. We do know that cattle are absolutely color-blind. The mator's red cape attracts the bull's attention by its flutter, not its color. Horses sometimes seem able to see green. Dogs are color-blind.



DON'T SHOOT!

We have no color sensitivity information on deer, bear, or other game animals. But they, like all mammals except the primates (which include man), are almost certainly color-blind.

They can, however, see differences in luminosity. In other words, zoologists believe that if you wore a bright red coat and stood in front of a bright green tree, an animal would not see you as easily as if you stood before a dull, dark green tree.

Birds are something else. Their color sensitivity is about like man's, and they can see about ten times as

sharply as man. The reason you can come anywhere near a pheasant is probably that he hopes you can't see him.

Bright-colored clothing may not be a drawback in hunting birds, however; they are attracted to colors resembling those of the foods they like, and their mental processes are such that a yellow coat might well attract birds which like corn.

Game Commission statistics, drawn from the hunting accident reports required by law, show the number of hunting accidents which might be affected by safety-colored clothing worn. 1967 figures issued last March by the Commission show that of 348 casualties inflicted by others, 228 or 65.5 percent were in two categories where bright-colored safety clothing might have prevented the accident. "Victim in line of fire" accounted for 208 casualties, including three deaths. "Shot in mistake for game" accounted for 20 accidents, but a grim 5 of these were fatal.

Sporting arms accidents of all kinds totaled 480; 335 of those injured were wearing at least some color, which indicated that most hunters are somewhat safety-color-minded. But 145 of the injured wore no safety color.

Color is, of course, only one factor in hunting safety as it relates to vision.

Allow for Defects

Defects in seeing ability need not be a bar to safe hunting, providing you take them into account. If you have a defect correctable by wearing glasses, you should always wear your glasses when hunting. The needed correction will help you see better, and the glasses may well protect your eyes from a pine needle scratch or a whipping twig.

You can learn to compensate for some visual problems that are not correctable.

If you are partially or totally color-blind (and some 8 percent of all men are red-green color-blind), you must

depend on other factors such as form, motion and size to identify what you see—and you'd better be extra careful.

If only one of your eyes is good for seeing at a distance, your depth perception will be affected. Cross-eyed persons are in this category, as are people who have only one eye, or those whose weaker eye cannot be brought up to the seeing level of the good eye even with correction. You can learn to judge distance in the field by the comparative size of objects, just as a one-eyed driver learns to compensate for his lack of three-dimensional vision on the highway.

Safety Margin

Even if your vision is 20/20, remember that weather, time of day and terrain affect your vision. Rain, fog, snow, glare, shadowy woods, and the dim light just after sunrise or before sunset all affect your ability to see. Starting half an hour or an hour later in the morning, and leaving the field a little earlier as dusk falls, can provide an extra safety margin.

The whole process of "seeing" is a complex one. So far in this article we have been talking mainly about the physical or mechanical part of the process — lenses of eye and glasses, light and shadow, color sensitivity, depth perception. But a far more important part of seeing for the successful hunter, as well as for the wise old buck who is trying to avoid him, is knowing what details are important in the flood of sense impressions which constantly flow along the optic nerve to the brain.

Animals, for instance — probably mainly because they are color-blind—depend mostly on motion to sight danger. As experienced hunters know, a stationary object seldom frightens an animal, unless his other senses pick up a scent or a sound.

For a hunter, a flick of white seen out of "the corner of his eye" may mean a chickadee in the brush, or it may mean the white tail of a deer. Or



WANT OTHER HUNTERS to see you? Wear fluorescent orange and be visible!

it might be the white handkerchief of another hunter about to blow his nose—and the first hunter had better be sure which of the three it is.

Thus, ability in recognizing what he sees may make an older hunter much more successful than his younger counterpart whose eyes are physically better but who hasn't the experience to interpret the often barely perceptible movements and sights within his field of vision.

The right equipment can help. A telescopic sight, although it decreases the field of vision, magnifies the object in the scope and passes more light into the eye—a definite benefit in twilight. Binoculars can often help make your hunt more successful, as well as being a safety factor. A low fog preparation applied to prevent lenses from "steaming up" is advisable.

Your ophthalmologist can prescribe special glasses for shooting if your eyes need this assistance. These glasses have the optical center of the lenses (which provide the most accurate seeing) in the upper inside area—the portion of the lens which is aimed through. If you wear bifocals while

hunting, your results will likely be better if the segments which improve your near vision are set low.

Eye accidents sometimes happen to hunters as they tramp through fields and woods, and the Pennsylvania Academy of Ophthalmology and Otolaryngology has some tips on first aid for eyes.

For instance, if a branch or twig scratches your eye, a tight patch should be fastened over the eye to prevent the eyelid from moving. When dirt or foreign bodies get in your eye, large pieces should be carefully removed and the eye bandaged until you can get competent medical treatment. Injuries from an exploding shell or a leaking breech should be bandaged and medical treatment obtained immediately. Water should not be put into the eye, as it might cause infection. The natural fluids of the eye are infection fighters.

Your eyes are essential to you. For better hunting, learn how to use and how to care for them. Train your vision to be accurate in the woods and fields, and you will be a more successful and a safer hunter.

Wonder What They're Waiting For?

Spiders, of which there are 100,000 species in the world, have been on earth for 300 million years.





HAWKS

*across
Pennsylvania*

By Ron Jenkins

Sharp-shinned Hawk

(*Accipiter striatus*)

IN LOOKS, temperament and living habits, this short-winged hawk could pass for a small version of a Cooper's hawk. The adult is blue-gray above with white and reddish brown barring below. The swift, long-legged "sharpie" hunts in much the same manner as the Cooper's—with alternate flapping and sailing, and a fast closing rush on his prey.

The sharp-shinned hawk takes many small birds, some of which are as large as the hawk itself. Not much bigger than a robin, this little raptor makes up for his small size with an extremely aggressive nature. Sharp-shins can be very vocal and fearless about the nest site. Climbers have often been struck by this hawk, and constantly harassed until well away from the nesting area.

For their small size, sharp-shinned hawks build a large nest of fine twigs, which may be from 18 to 24 inches in diameter. The nest is usually in a conifer in some secluded section of the woods, and often not more than 20 to 30 feet high.

A normal clutch of eggs is three to five. They are a pale bluish color with splotches of liver brown. When partially feathered, the young resemble small Cooper's hawks. Juvenile plumage is brown above, with white underparts heavily streaked with brown. The female is always decidedly larger than the male, even when quite young in the nest.

Sharp-shinned hawks may best be seen on flyways in the fall, when they come in large numbers, usually with a flight of Cooper's hawks.

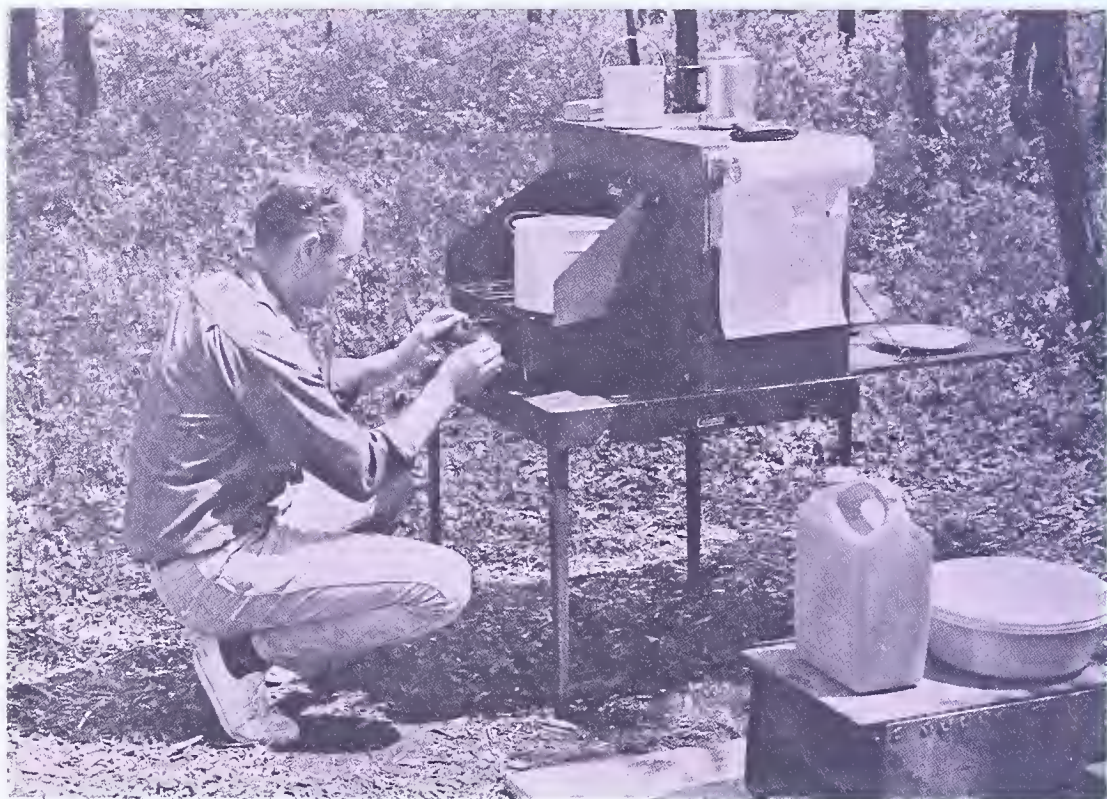
One October, when the wind was blowing from the southwest at about 20 miles per hour, I observed a flight of sharp-shins and Cooper's hawks which must have numbered in the thousands. They were flying in small flocks of 6 to 30 birds, most of them at treetop level. It was quite easy to see the yellow eyes on the immature birds as they passed directly over me and gave me the once-over.

That same day, flocks estimated at up to 50 blue jays also passed through. These flew well below the treetops. The reason was obvious.

Sharp-shinned hawks, as all the other predators, have a definite place in the wildlife community. Without them, many of the more prolific breeding species of small birds would soon multiply beyond the ability of the environment to take care of their needs.

Sharp-shins are hard to find. Their cackling call resembles that of a flicker, and only the experienced observer can find the telltale signs that betray a nesting area.

Take your camera instead of a gun when you look for him. The hunt will be no less exciting, as the shots you get will be much more difficult and require more skill. And your end result can be enjoyed by many in time to come.



A NICELY LAID OUT camp kitchen setup makes cooking chores easy.

Camp Food Tastes Better

By Les Rountree

ALL FOOD tastes better when cooked and eaten outdoors. I strongly suspect that things culinary provide the motivating factor for many camping trips. At least it sounds that way. For example:

"Boy, weren't those fish great, deep fried, fresh out of Lake Gitchegumee? . . . and how about those potatoes baked in the coals—did you ever eat any better? . . . nothing like boiled coffee with a few egg shells thrown in to settle the grounds."

This kind of talk isn't all poppycock. Oh, sure, you're usually hungrier after a day in the open and an incinerated hot dog has a taste not unlike filet mignon. But camp chefs, who like to be appreciated, really do try harder on camping trips or simple outdoor

cookouts. There are few outdoorsmen or women who wouldn't like to be known as masters of the woodfire or Coleman stove. You housewives know what I'm talking about. A few complimentary words about your prowess at the kitchen range will make you try that much harder. So it goes with outdoor cooks.

I tipped my hand last month and admitted that I'm a cast-iron skillet man. Heavy to pack, perhaps, but how can you beat something so versatile? I don't say that every camper *should* have one—every camper *must* have one! With a 14-inch cast-iron skillet, a roll of aluminum foil and a large coffee pot the camp chef is in business. Yes, you should have a lid for the skillet, but you can fashion



STEW IS A BASIC meal for many campers, and here are the ingredients before they go into the "takes care of everything" skillet.

one from foil. Mosquitoes dearly love to commit suicide by diving into the rising steam, thereby winding up in the stew. (No matter—you really can't taste them if you don't see them.) One last comment on the kind of cast-iron skillet. Get a deep one. That means one with high sides. If you're going to make stews, chili, sauces or deep fry fish, you don't want to bubble over and lose half the broth or cooking grease over the side. Besides, a flare-up of grease on the camp stove or open fire could have bad consequences.

The dish that is more fun to prepare than anything else is stew. What kind of stew? Well, just stew. Start from scratch and let your imagination run wild—up to a point. It's hard to make a mistake if you stay within a few main guidelines. First of all, you have to start with meat of some kind. Beef, veal, lamb, venison and chunks of various small critters like rabbits, squirrel, chicken and pheasants all work fine. The game species, of course, are largely a seasonal thing, so let's think about beef right now. Taste, budget and availability determine what you'll use for stew meat. I suppose you could cut up chunks of filet mignon, but that would not only be show-offy, but downright silly. Some of the more inexpensive cuts like brisket, neck and shank actually contribute far more flavor to stews. After they've been simmered for a couple hours the

economy cuts are just as tender anyway. Here's how I begin a Rountree Camper Stew.

Cut up a pound and a half of stew meat into inch and a quarter cubes. Measurement doesn't have to be exact, the smaller cubes just brown quicker. Sear the cubes for 15 minutes in a couple tablespoons of butter, adding some salt and pepper. Flame should be hot for this first stage. Now add a quart can of tomatoes, a large sliced-up onion and, if the spirit moves you and if it's available, throw in a stalk of diced celery. Allow this mixture to cook slowly for over an hour, until the meat is reasonably tender. Pare five medium potatoes and ten carrots. It will take about five minutes to do this. Add the cut-up carrots (large chunks) and then the potatoes. Carrots take just a bit longer to cook, that's why they're added first. If you are so inclined, at this stage shake a dozen good-sized drops of Worcestershire sauce into the pan. This is the basic stew. All you have to do is wait until the vegetables are done (about another half hour) and eat it. A loaf of French or homemade bread adds the perfect touch, but failing that even crackers will complement it. Not at all complicated, is it?

For variations on this basic stew for campers, you can add just about anything and not make much of a mistake. For instance: A basket of fresh

THE MOUTH-WATERING TREAT when it's ready to eat. With homemade bread as the final touch, nobody stops eating until the pan is empty.





THE GRUBSTAKE is a cast-iron bayonet that holds various cooking utensils over fire at adjustable heights. (From Sports-pal Products, Emlenton, Pa.)

mushrooms or a couple cans of prepared ones add a luxury touch. Turnips work well into this blend and I especially like their taste. If your taste favors the exotic add some cut-up green pepper and a touch of curry powder. In fact, practically any garden vegetable will work in this basic stew with one exception — parsnips. They are fine by themselves, but they don't add much to a stew.

We started out with beef, but the same general directions hold true for other meats. Pork, lamb and veal will work out fine. If you are using game allow a bit more time for cooking unless you know the animal is a young one. Venison stew is the absolute finest in the world and here you can really go wild and add a bit of cooking sherry. With rabbit, squirrel and game birds, the meat must be boned first. You only want chunks of pure meat. With older game a little meat tender-

izer will work wonders, but it isn't absolutely necessary and in a way destroys the gamey taste which makes the true flavor. With chicken or other fowl stews (note I said "fowl" not "foul") don't add the Worcestershire, but try a drop or two of tabasco.

Have No Fear

With camp stew the main thing to remember is, have no fear. Load it up with all sorts of vegetables and, of course, the meat of your choice and let it simmer. It's tough to make a mistake if you're using fresh produce. If some of the ingredients are canned, don't cook it quite so long or the whole thing will become soggy and flat. Just before you're ready to serve, ladle off the excess grease that forms on top. It adds no flavor, lies heavily on your stomach and makes cleaning the pan more difficult.

If the main dish is going to be grilled or barbecued steak, wieners, hamburgers, chicken or what have you, the skillet or wire grill will be used. If the group happens to be made up largely of Pennsylvanians, you'll want some potatoes. Here's where the aluminum foil comes in. The simplest way of preparing potatoes in an open fire is to wash the spuds and scrub with a bristle brush, coat with butter or oleo, wrap in foil and throw them into the coals. Nothing to it, and better than any baked potatoes you ever ate. Biggest problem is how to tell when they're done. Everyone who does potatoes this way has a system. Only trouble is, wood fires vary considerably in heat factor and what seems to work one time doesn't work the next time. I've found that the best way to tell is pierce them with a



wooden toothpick. If the toothpick enters with little resistance the thing is done. Jabbing them with a many-tined fork lets out the heat and flavor and the potatoes wind up coming to the plate looking like a perforated piece of needlepoint.

When I was making some plans for this particular column I had plans to show an alternate way of preparing potatoes in foil. I had just about decided I would have my wife do the posing for the pictures and would set the whole thing up in my backyard. A chance visit to the Deer Lick Camping area in Potter County saved me the trouble. Mr. and Mrs. Clair Graves and two other couples from Scio, N. Y., happened to be there and they were in the act of cooking dinner.

"Foiled" Potatoes

Their menu was to be barbecued chicken halves, tossed salad and sliced potatoes cooked in foil. We have to say "foiled" potatoes because it isn't really frying, boiling or baking. I suppose it's more like steaming. At any rate, here's how they did it. Using a 15-inch square of heavyweight foil, two medium potatoes are sliced up just as if you were going to fry them. Butter, salt and pepper are added and the package is tightly sealed. If your taste is inclined that way, a touch of onion powder or a few slices of real onion can be added before folding the package. Parsley, fresh or dried, is also an interesting addition at this point. The bundle can be placed on a grill or in the coals, and there you have it. Again, regulating cooking time with an open fire is difficult. With a good bed of glowing coals the foiled potatoes should be done in about a half an hour. Placed on a rack (you don't want a roaring flame for this), it will probably take a bit longer. Using gloves or a padded cooking mitt you can check on the progress if you think you must, but you will lose some flavor this way. The beauty of preparing food in foil is the retention of all the



WOMEN ENJOY camping when conditions are "civilized"—which is to say, folding aluminum tables to work on, bug-free sleeping quarters, etc.

savory flavor that the food and spices have to offer. If you can avoid breaking the seal until the package hits the table you'll be glad.

Like the "basic stew" this is the "basic foil" method. Practically anything can be cooked in this manner. All vegetables can be cooked to perfection in foil. With the smaller, more delicate items such as tiny peas or string beans, some water should be added to avoid burning. As I mentioned earlier it's best not to inspect the contents during the cooking. But with all things, until you get the feel of cooking this way you may take a peek now and then. Once you've learned to regulate, or rather guess at the fire heat, the need to do this will be reduced.

When preparing potatoes, carrots, turnips or other rather coarse vegetables, don't try to crowd too many of them into one package. It's much better to build several small packages than one large one. This avoids overcooking on the outside and undercooking on the inside.

The outdoor cookout special, the hamburger, can be turned into something really great if cooked in foil. I happen to prefer my 'burgers a bit



CONCRETE FIRE RING with grill is a familiar and welcome sight at many public campgrounds. Barbecued chicken is today's menu.

rare on the inside. I can eat one that is moderately well done all the way through, but these little black chunks of solid material that many backyard and camp chefs call charcoaled 'burg-

ers—forget it! All the meat juice is gone and with it goes the flavor. A hamburger, of the rare, medium or well-done category, should still be moist.

Wrapping hamburger patties in foil is an interesting change. Add a touch of butter, some salt and pepper and lay on the coals for about three to five minutes on each side. It's ready (if you like 'em rare). All sorts of things can be wrapped up in the foil with a hamburger. Onions, green pepper, a dash of barbecue sauce, a slice of cheese and many other goodies. One caution, don't overcook.

Coffee Pot Mainstay

Eating should be fun and even more so out of doors. To wind this up we have to mention that third mainstay of the camp utensils, the coffee pot. It's not just for coffee. It's for boiling water for tea, soup and washing dishes. It's the ideal thing for soup, particularly the concentrated dried types. Much easier to serve from than a round saucepan and not nearly as tippy. For small groups, up to four, a quart-size pot is better than a big one. It heats faster and it's easier to pack. Biggest problems seem to be finding one of the darn things. Appliance stores won't have them, but old-fashioned hardware stores and camping outlets should. I have an old tin one that must have been made 30 years ago. The grayspeckled enameled ones are just great and I'm looking for one right now. Anyone got one they'd care to part with?

Chilly Business

The emperor penguin divides responsibility with the female. To keep the penguin egg off the ice, they take turns holding it on their feet.

How About Soft Boiled?

The eggs of snapping turtles are good food but must be fried as they will not boil hard.

The Mayor and the Minor

By Keith C. Schuyler

Photos by the Author

IT HAS BEEN the contention here since this column started to appear under my byline that driving for deer with a bow and arrow is an excellent way to score. Yet it becomes increasingly difficult to get hunters to cooperate as a group during those mid-day hours when deer are bedded down. With the archery season upon us, it is a good time to look at the reasoning and the experience behind this contention.

Driving for deer is a supplement to rather than an alternate way of hunting deer. There is nothing to take the place of posting yourself on a good runway in the early and late hours during the legal times for hunting. Nevertheless, from about 9 a.m. to 4 p.m. this type of hunter is largely wasting his time. There are exceptions to this, of course, in the deep recesses of the mountains where deer are more likely to stir about during the day. But for the most part these animals bed down when the sun is high and hot.



THE MAYOR and the minor — Wayne Schuyler and Ken Laubach—with deer they took on successive drives during a cooperative hunt. Group's success ratio far exceeded that of solitary hunters.

It is true that you can stir up deer by slowly working your way through the woods, but it is seldom that you get good shooting in this manner. Deer will normally take off for other parts when they are shoved from their beds, except for the rare occasion when one will leap to its feet and stand there inviting trouble. Those who do hunt in groups know how difficult it is to get a deer to come slowly by a stand after it has once been aroused by the drivers.

It is difficult to understand why more Pennsylvania archers do not take advantage of this fairly common knowledge. By the time this appears, a group of us will have hunted mule deer in Colorado and the plans were to drive during the in-between hunting hours. A trip planned for white-tails in Ontario next month includes



AWAITING THE rest of their gang after a drive are Bill Wise, Rick and Albin Rakauskas, and Ken Laubach.

plans to drive for deer in the middle of the day. Although it would certainly be my intention, in either case, the outfitters with whom I expect to hunt have informed me that drives are planned.

Let's get down to cases. Last fall a group of us returned to familiar haunts on the last Saturday of the season. It was the first Saturday that we were able to get a good gang together. Previously other plans and weather fouled up arrangements. The few of us who did show on previous Saturdays had plenty of deer moving, but it was next to impossible to get a good shot.

We assembled at 9 a.m. so that each would have had an earlier opportunity to try out his favorite stand on a solo basis. Grouse and squirrel hunters were working over our first good areas, and the few deer we shook loose were quite edgy and permitted only run-

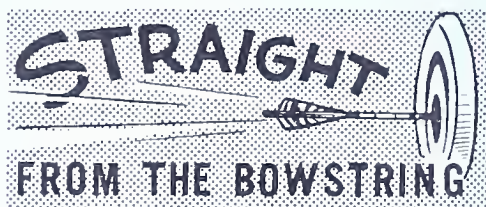
ning shots. Then we moved in on a side hill that is generally productive if the drive is carefully organized. This one was.

First Drive Produces

It was my turn to drive and things started off most interestingly. John Sibley, who had come downstate from Towanda just to help and enjoy the hunt since he had already filled his tag, called out that two deer had passed close by him on the top of the drive. They got by me without showing themselves, but we knew that we had two deer ahead of us for a starter. When we emerged at the other end, it was quite obvious that there had been some excitement before our arrival. My *little* brother, Wayne, who is mayor of our hometown, Berwick, was pointing out the evidence that he had scored a hit on a deer not far from the edge of an old dirt road. The deer had crossed the road and disappeared up the side of a wooded hill beyond.

Wayne, a former president of the Pennsylvania Archery Association, was certain he had a good hit. "It was midway up in the chest just behind the shoulder," he told us. Certain that we had a dead deer, we spread the entire gang out to locate it. However, by the time we hit the top of the ridge several hundred yards distant, it was obvious that we had either passed the deer or it had gone farther than we thought possible from the description of the hit. While Wayne and his son, Scott, went back to again work out the track, a large part of the group set up another drive to cover the area ahead of where Wayne's deer had disappeared.

The drive was not much more than under way when a button buck came



bouncing up to Kenneth Laubach. Ken, age 17, drove an arrow into the buck's neck on a quartering frontal shot. The deer wheeled and headed up the steep hillside.

Moments later, Bob Laubach, on the stand above Ken, saw a deer coming his way. He drew his bow to shoot when the deer suddenly fell over. It was the one that Ken had shot about 60 yards downhill.

After dressing out the deer and loading it, the entire group went back to join the rest in the area where Wayne had been left looking for his deer. By the time the group arrived, the mayor had found his deer and dressed it out. It was within a few hundred feet of the road. The deer had been passed by the group on the first try. A pool was quickly set up to guess the animal's weight since it was obviously a nice-sized doe. The mayor doubled his luck by guessing within one pound of the actual field-dressed weight of 108 pounds as recorded on the scale where he had the animal processed.

Gang Gets Results

The most important thing to note from the preceding is simply that, on the one day that we had a fair-sized gang, we took two deer. For 11 men, that is about 18 percent success. The state average is just over three percent.

Those who go to camps as a group usually report good results. Here again, the implication is that group hunting pays off. While it is true that being in any area for a number of days helps familiarize hunters with the area and leads to better success on individual stands, the fact that a number of hunters are working the area keeps the deer moving from one to the other.

How do you get a group of hunters together? This is a tough question. It would certainly seem that in the bull sessions which take place before season at the various clubs it would be the easiest thing in the world to line up a bunch of fellows to hunt deer to-



SEVENTEEN-YEAR-OLD Ken Laubach's first deer. Taken with bow and arrow, this accomplishment will be recalled with pride through all his hunting seasons to come.

gether during the bow season. The only method we have found, and it works sometimes, is to establish a rendezvous so that those who wish to take part after hunting from a stand earlier can do so. It is important to know whom to expect, however, or you can spend a lot of time making up a roster. The only practical way is to contact your hunters during the week before and get the necessary information about them.

It is necessary to have a roster if five or more persons are planning to hunt big game together. A copy must be displayed at the group's temporary headquarters—perhaps attached to the windshield wiper of the captain's car—and the captain of the group must carry the other copy with him.

Although filling out a roster for a permanent camp is no problem, there is some confusion about providing the

Give

GAME NEWS

To a Friend . . .

proper information for a casual gang getting together for a one-day hunt. It is necessary to post the name of the camp or party. Normally, most of the group is from one archery club and this will suffice as a name for the group. If it is just a number of hunters who get together, the name of the captain can be used, such as "John Doe's party." This gives any official checking the roster someone to contact in the event of any problems.

Location

Under location or camp, you can simply post the rallying point, such as "Sutter's Mill," "Pearson's Gas Station" or "High Top Grocery Store," in "Lotsofdeer County." It is important that each person be listed with his complete address and the date of the hunt. In the column normally reserved for make and caliber of firearm, we always list the manufacturer's name and the weight of the bow. Of course, any deer taken must be listed on the sheet, after the name of the successful

hunter, with the sex, approximate weight and number of points of an antlered deer. If someone leaves the party, his name should be deleted from the roster.

The captain of the party accepts a certain amount of responsibility, since he is required to see that the hunt is conducted legally. It is also necessary that he retain a copy of the roster for 30 days after the hunt.

To eliminate any confusion as to individual or collective responsibility, we have a standard rule which, fortunately, we have never found necessary to put into use. It is simply that if any member of the group makes an honest mistake, it will be properly reported and each hunter will chip in to assist in paying the fine. On the other hand, if any individual deliberately violates a Game Law, or does so unintentionally and attempts to evade his responsibility, he will be reported and he is on his own for whatever penalties are involved. We feel that anything less than this would simply

LOOKING OVER DEER WITH Wayne and Ken are columnist's son Keith and John Sibley.



not be playing the game.

We have one other little rule that we have never had to use, but one which eliminates a potential problem. In the event that a deer is struck by two different archers, a committee is selected at random to determine which arrow will be considered the fatal hit.

Although at first glance such rules might seem superfluous, they could eliminate any unpleasantness in the event a situation developed which would bring them into play.

Successful Hunter Keeps Deer

Another popular rule we follow is that any successful hunter is entitled to his deer with no strings attached. The sometimes popular rule followed by many groups of sharing the venison is waived for a number of reasons. Paramount is the fact that each hunter usually will have many more days to hunt with either the bow or the gun. And because the ratio of success with the bow is low, at best, we don't want to divide a deer among anywhere up to 25 hunters.

Those who are trophy hunting are just as welcome as hunters who are interested in trying for the first deer that comes along. Although it was the second deer for the mayor with the bow and arrow, in addition to a number of others he has bagged with the rifle, it was Ken Laubach's very first. So it was a memorable hunt for both the mayor and the minor.

As usual, in late afternoon we broke up our gang so that each could return



REQUIRED TAG is attached to his deer—a button buck—by Laubach before dragging it to road and loading it into vehicle.

to his favorite solo stand. But, it is noteworthy that over the many years that we have conducted these Saturday hunts, no one has taken a deer before or after our hunt on the days when we cooperated as a group. Statistically, we have proved repeatedly that the ratio of success increases substantially when you get together for a hunt with the bow and arrow. And even if we never scored, there is something special in sharing the pleasures of October hunting with those who speak the same language.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



WHEN YOUR DOG COMES ON solid point and a rooster's flush is only seconds away, it's good to know your ammo is suited for the game.

Incorrect Shot Size May Be . . .

THE REASON YOU MISS

By Don Lewis

Photos by Helen Lewis

"KEEP YOUR EYE peeled for it comin' down past you," warned my hunting pardner, Jim. "That rabbit's gotta be mighty close the way old Custer is pussyfootin' around them brush piles."

"I'm all set," I called as I watched Jim's dog make his way into a fallen treetop.

"There he goes," yelled Jim. "Give it to him."

The rabbit erupted from the far side of the downed tree and bolted directly past Jim. I couldn't shoot, but I added moral support by yelling, "Take your time, Jim." Jim's 12-gauge single cracked, and the rabbit seemed to shift to an even higher gear and disappeared.

"How'd I ever miss a wide open shot like that?"

"Haven't you heard that there's more room around them than—"

"Yeah, yeah, I know all about how much room there is around them. But that's the fourth rabbit I've missed this morning. The law of averages should start leanin' my way pretty soon."

"Since you're getting all the shooting this morning, why don't you try a good gun for a change. My 20-gauge double may even change your mind about your big 12. Anyway, with the double, you'll be able to miss twice instead of just once," I prodded my good-natured pal.

"A 20-gauge," Jim snorted. "Might just as well have a slingshot. But since it'll be your shells I'm wastin', I'll just take you up on it."

Not wanting to make any mistakes with the shells, we cleaned out our

coat pockets and exchanged ammo.

"I use the low brass 8s in the right barrel when I'm in thick stuff, and high brass 7½s work mighty nice in the left barrel."

Jim moaned. "You use 8s and 7½s. Boy, oh boy, why don't you just throw sand and be done with it. I don't want nuthin' but 4s and the higher the brass the better."

"Listen, pal, you haven't done too well this morning with your big 12-gauge and number 4 shot. It might be wise to try a few of mine before starting out on a lecture tour. I use those sizes for a reason. I want a thick pattern. In this brush and grapevine country, long-range power isn't needed, and the low brass shell with the small pellet gives me a good pattern from my open barrel. Since the second shot won't be too long, the high brass 7½s reach out the few extra yards with a good dense pattern."

"Horsefeathers," said Jim. "All you'll do with shells like you're usin' is bring feathers and fur."

"Try 'em and see," I suggested.

Rabbit Routed

While Jim and I were having our friendly argument, Custer had routed the rabbit again and was bawling at the top of his lungs.

"He's fetchin' it back. Get over to that ridge there, and the single barrel will reach clear to the hollow," Jim whispered. I hadn't taken a dozen steps before the air was split by the crack of the 20-gauge. I whirled to see what Jim was shooting at. He was removing an empty from the double while staring down through the woods.

"I rolled him," blurted Jim. "I forgot about having your peashooter when I saw that bunny streaking along the creek bottom, but somehow I managed to roll him."

"Which barrel did you shoot?"

"I don't know. I just pushed the safe and grabbed for a trigger."

Fortunately, he had fired the full choke barrel. He was so amazed at

how far the 7½ shot had reached, he stepped off the distance to the dead rabbit. Allowing for the rough terrain, Jim came up with 48 steps; it looked a lot farther.

"Had to be just luck," he commented as he cleaned the rabbit. "Probably one pellet in the head."

"Hold on," I stopped him. "Take a look in the snow where you shot that rabbit. I saw at least two dozen places where shot had hit. There's more than one pellet in that rabbit."

Later, when we stretched out our tired bodies in Jim's living room after consuming a gigantic meal, Jim admitted that he had probably missed a lot of game due to using an incorrect shot size. My peashooter, as Jim called it, had stopped two more rabbits and



SHOOTING CLAY BIRDS from a trap such as this can give a good picture of performance from different shells.

a grouse for him. To deflate Jim's theory about large shot a little more, he knocked a gray squirrel out of a fairly high tree after warning me to have the 12-gauge ready to finish the job. He just shook his head when the squirrel fell.

What is the most important factor to consider in the hunting shotgun? Is it gauge, barrel length, choke, shot



RELOADING gives knowledgeable shooter a chance to tailor shotshells to his own gun, as well as cutting shooting costs.

size? Naturally, each has something to contribute to successful shotgun shooting, but I think the hunter should give more thought to the shot size than most do. Any size will do the job at short range. It makes little difference if it's a 2 or a 6, the potential is there. The problem is to get the pellet into a vital area, and the only way to guarantee this is to have enough pellets to make a dense pattern.

My friend, Jim, used nothing but 4s. A normal load is about $1\frac{1}{4}$ ounces of shot. It takes only 135 number 4s to make an ounce of chilled shot, so Jim had about 175 pellets leaving the muzzle. Size $7\frac{1}{2}$ chilled shot numbers approximately 345 to the ounce, so Jim fired over 400 pellets at the rabbit from my gun. The smaller size does not make a larger overall pattern, just a denser one. I've shot 4s and 5s on the patterning plate and got holes that a pound coffee can would fit into. This wasn't the case when smaller shot was fired. The extra shot filled those gaps.

A squirrel, grouse or rabbit is not large. Worse yet, their vital areas are small. It's impossible to precisely

guide a shot pellet. I've learned this the hard way at shotgun turkey shoots. At times I couldn't coax a pellet within inches of the little black dot on the target. The only thing for the hunter to do is to get his game well within his shot pattern and trust that enough pellets will hit to make a clean shot.

Many of today's shooters want power loads. Everything's power today, and the cry is for magnum guns and express loads. Don't misunderstand me, these have a place in the hunting picture, but I don't think the small game hunter needs this type of gun or shell to have good success. For one thing, small game is tough but not that tough. Furthermore, most shots are a lot closer than you think. Just last season, a grouse took off and swung back over my head. I had trouble getting turned in the thick crab apple clusters, but I managed to get the gun up and let fly with the full choke barrel just as it disappeared into a mass of vines. I missed, but I got a big surprise when I saw how close the shot actually was. It seemed to take me an hour to get spun around, and I know that I thought the grouse was getting out of range. This was purely imagination, and I would have stood a better chance if I had used the modified barrel with its low powered shell.

Pattern Most Important

Statistics show that most small game is killed below 30 yards. To me, this indicates clearly that power alone is not the answer; I think that pattern is. The pattern that has the fewest holes gives the hunter his best chance of stopping.

I would not include ringnecks, turkeys and some types of squirrel hunting in the 30-yard category. These shots are usually longer, and the game is tougher. Here, a heavier pellet which will travel the long distances with more shocking power is advisable. However, I can't recommend 4s for ringnecks or squirrels. I honestly



DICK DIETZ COACHES new shooter at skeet. The game helps field shooting.

believe that 5s and 6s will be more effective. In an autoloader or pump gun, I use a $7\frac{1}{2}$ followed by a 6 and a 5.

In $1\frac{1}{4}$ ounces of shot there are approximately 170 4s, 215 5s, 279 6s and 431 $7\frac{1}{2}$ s. A full choke gun puts around 70 percent of its charge into a 30" circle at 40 yards. Using this as a guide indicates that from a normal load of $1\frac{1}{4}$ ounces of shot, 4s would put 119, 5s 150, 6s 195, and $7\frac{1}{2}$ s about 302 pellets into this patterning area. No one can guarantee this to be absolutely true with every full choke gun, but I believe it shows just how much denser the small shot makes the pattern, and, to me, this is what brings down the game.

There is no exact method of knowing how a shotgun will pattern except by firing it. You should find out how and where your gun patterns by shooting half a dozen or so shots at a pattern board with each type of shell you are thinking of using. You might be surprised at the results. Just because a barrel is marked full choke or what-

ever does not mean it will throw corresponding patterns with all kinds of shells and all shot sizes—or even with any of them. Each barrel is a law unto itself. Furthermore, some will pattern much the same regardless of shot size, while others will handle one size much better than another.

Pattern is largely determined by the barrel's choke—the internal restriction at or near the muzzle. Common terms indicating the relative degrees of restriction are "full," "modified," "improved cylinder," and "cylinder." Full choke is the tightest; that is, it has the greatest degree of restriction. As examples, some gun manufacturers make their 12-gauge barrels with a bore diameter of .693" for full choke, .711" for modified, and .729" for cylinder.

As a general rule, the greater the restriction, the tighter the pattern will be. The situation resembles that of a nozzle on a water hose. However, like the nozzle, if you constrict the bore too much, all semblance of patterning

disappears. Other factors affect patterns—including the metal from which the shot is made and whether it is plated or not, the condition of the bore, etc. This is actually a very complicated subject which can be covered here only in general terms.

Wild Blue Yonder Guns

In every community, there are one or two guns that reach into the wild blue yonder and drop a duck or send a deadly charge the entire length of a cornfield to nail a sailing ringneck. No one knows how high up is, and cornfields are just as long as “clear across a valley” or “from one hill to another.” When my good friend Bill Gray of Kittingham indicated piously that his 16-gauge 28” double barrel Lefever fell into this category, and that he had to wait until a flying ringneck was a distant speck before he could shoot, I invited him to show me on the patterning board.

He picked a perfect night; it was raining buckshot. I slopped the white lead mixture on the steel plate while Bill dug out a conglomeration of shells of various colors. All were high veloc-

ity No. 5 shot. Bill has an affinity for large shot. When he asked me how far back I wanted him to start, I pointed to the 25-yard marker. He assured me that the Lefever would shoot right through the plate at that distance, but I motioned for him to shoot. When Bill shot, it looked as if someone had painted a one-foot black circle on the plate. They were in there! Bill kept insisting that he had to wait until his game was nearly out of sight, and I started to believe him when he put nearly all of the next load into a two-foot circle at 35 yards. I hiked him back to 40 yards and then 50, but the Lefever kept right on shooting consistently tight patterns. My only suggestion was that the Navy might be interested in it for a shore gun.

When you come right down to it, it doesn't really matter what kind or make of shotgun you own. Naturally, it should fit you and flow smoothly to your shoulder. It also should shoot where you point it. If it does this, you can get your game with it. But your results will be best if you test various loads to see which ones it prefers. Shot size has a lot to do with it.

Anything to Be Different

Buffaloes, like cattle, have hollow, permanent horns. Deer antlers are solid and are shed annually. Antelope shed the outer sheaths from permanent cores.

The Gun Digest, 23rd Edition

It's become a yearly cliché to say: “John Amber has done it again, the new *Gun Digest* is the best yet,” but like most such observations, this one is based on fact. No other publication so consistently covers all aspects of the gun field. Articles—and there are almost four dozen, in addition to the extensive catalog section—provide in-depth dissections of little known historical subjects, as well as data on the latest guns. Outstanding selections this year include Raymond Caranta's “History of French Handguns,” James Serven's “Elegant Firearms of the Favored Few,” and Jack O'Connor's “Visit to Eibar.” Buffs of American frontier days will find much of interest in Norman Wiltsey's “Indian Guns and Gunfighters,” while Bob Hagel's article on several 338 magnums will appeal to big game hunters. Every previous edition of the *Gun Digest* has become a collector's item. This one will too. (From the *Gun Digest* Co., 4540 W. Madison St., Chicago, Ill. 60624. 416 pp. 8½x11, \$4.95.)

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Pennsylvania Seasons and Bag Limits 1968-1969

The Pennsylvania Game Commission, in Harrisburg on June 4, 1968, established the following seasons and bag limits for resident game and furbearers for the 1968-1969 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 26 will be 9:00 a.m., DST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers from one-half hour before sunrise until 10:00 a.m., DST. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 12	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Oct. 12	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
1	1	{ Wild Turkey—Counties, and parts of, listed below*	Oct. 26	Nov. 23
		—Counties, and parts of, not listed below	Oct. 26	Nov. 16
		—Spring Gobbler Season (bearded birds only)	May 3	May 10, 1969
4	20	Rabbits, Cottontail (not more than 20 in combined seasons)	Oct. 26	Nov. 30 AND
			Dec. 26	Jan. 11, 1969
2	8	Ring-necked Pheasants, males only	Oct. 26	Nov. 30
4	20	Bobwhite Quail	Oct. 26	Nov. 30
2	6	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 4, 1969
Unlimited		Raccoons (hunting or trapping)	No close season	
Unlimited		Woodchucks (Groundhogs)	No close season	
Unlimited		Grackles	No close season	
Unlimited		Squirrels, Red	All months except	
			Oct. 1-11, incl.	

BIG GAME

1	1	Bear, over one year old, by individual	Nov. 25	Nov. 30
2	2	Bears, over one year old, by hunting party of 5 or more ..	Nov. 25	Nov. 30
		Deer, Archery Season, any deer—Statewide	Sep. 28	Oct. 25 AND
			Dec. 26	Jan. 11, 1969
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Dec. 2	Dec. 14
1	1	{ Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below**	Dec. 2	Dec. 14
		Deer, Antlerless—Statewide	Dec. 16 & 17 ONLY	
		—Counties, and parts of, listed below*** ..	Dec. 16	Dec. 21

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 23	Jan. 12, 1969
Unlimited		Muskrats (traps only)	Nov. 23	Jan. 12, 1969
			AND	
5	5	Beavers (traps only)—Counties of Luzerne, Susquehanna and Wayne	Feb. 8	Mar. 9, 1969
3	3	Beavers (traps only)—Remainder of State	Feb. 8	Mar. 9, 1969

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Chukar Partridges, Sharp-tailed Grouse.

***For special regulations concerning deer, turkeys and beaver, consult the 1968-69 Hunting and Trapping Digest.**



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COVER PAINTING BY NED SMITH

Cottontails! Was there ever—anywhere—a more popular game animal? We doubt it. This little brown-and-white speedster has been around forever and, despite the fact that every predator and most hunters dote on him, chances are he'll be with us for all time to come. We certainly hope so. Nothing else can coax music from hounds as well as a bunny, and no symphony ever composed can equal a pair of beagles' ringing tones on a frosty morning. Last year, some 3,000,000 cottontails were harvested in Pennsylvania, so they certainly are the Commonwealth's leading game animal. Give 'em a try yourself.

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Of Now and Future Memories

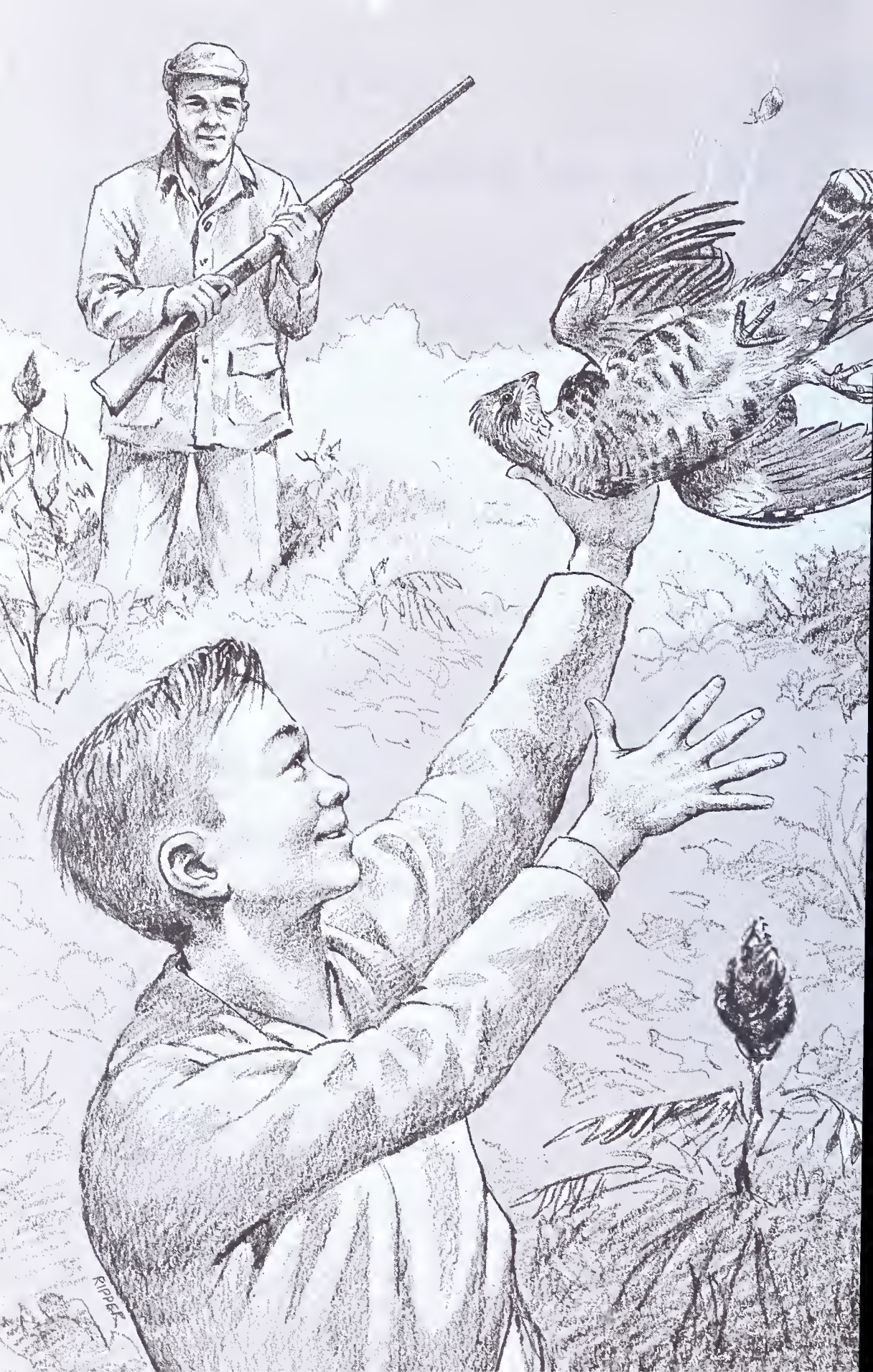
BY THE TIME this appears in print, the vast majority of GAME NEWS readers will have taken advantage of the opening of the regular small game season. Practically all will have something tangible—pheasants, rabbits, grouse or whatever—to show for their time afield. All will have other benefits to remember, not only in the weeks to come, but throughout their lives. It's well over a quarter century since my "official" first day, but I remember many scenes from it vividly, and countless others from the intervening autumns. I'm certain all of you have similar memories. The iridescent eruption of a ringneck from a frost-colored swale . . . the skittering of a cottontail through crisp oak leaves, a frantic beagle hot on his tail . . . the heart-jamming explosion of a stepped-on grouse—these are the memories that never die. Though all may be repeated a number of times each year, there's still something unique about each, something that makes it valued in itself, something that keeps the past alone from being enough to satisfy so long as we've the strength in our legs and lungs to challenge the hills for another season.

I feel sorry for persons who never have shared these experiences. Far too many Pennsylvanians fall into this category. I started thinking about this when looking up the statistics on those who do hunt. Hunting license records are kept on a county basis, so it is generally impossible to tell if a buyer lives in a city, town or rural area, but one exception may be the key. Philadelphia County, for all practical purposes, consists of only the city of Philadelphia. And here, with a population of over 2,000,000, only 21,291 licenses were sold in 1966 (though admittedly many Philadelphians probably buy their licenses in surrounding counties). This is a shade over one percent. By comparison, 931,239 licenses were sold statewide. This is about 8½ percent of our 11,000,000-plus population, not including those farmers who don't need a license.

This strongly indicates that it's the city dwellers who are least involved in hunting—which is no startling deduction, obviously. But when you think about it, it's apparent how unfortunate this is. For these are the persons who also have the least opportunity to enjoy our fields, forests and rivers during everyday life. In a few minutes any small-town person can "get away from it all," but what can a youngster growing up in Philadelphia do? A Sunday visit to Fairmount Park is a long cry from a frosty Saturday morning along the Sinnemahoning.

Cities have advantages of their own, of course—concerts, museums, organized sports, etc. However, those of us who live in small towns know this, and occasionally visit a metropolis to take advantage of these benefits. But millions of city people apparently grow up, live and die completely unaware of the outdoors as a part of life. This is a shame. So if the opportunity ever arises, please do your utmost to show them our side of the picture. Anything we can do to help acquaint them with the glory of our hills is bound to be worthwhile. After all, there is an infinity of new memories out there, waiting to be absorbed.—*Bob Bell*





Grouse Feathers

By Albert G. Shimmel

SOFT half sounds of the night mingle with the whisper of flames that lick among the birch logs. The firelight pricks points of light on the dark steel and polished walnut behind the glass of the gun cabinet. There is a companionable silence that communicates better than words, as we sit with half closed eyes staring into the flames. There is the faint perfume of wood smoke mingled with the sharper pungency of Hoppe's No. 9. The boy, now man grown, is home for our annual grouse hunt. Is he thinking of that day, years ago when the first grouse fell to his gun, or is he thinking ahead to the day when Steve, his son, will join us? There is no need for words. . . .

I remember my first grouse. . . .

The beauty of the autumn day was lost to me as I fingered the remaining pair of shells in my jacket pocket. My way had been marked by a succession of empty cases and disappointments. That morning I set out with confidence, expecting to collect my four grouse and be in the big timber in time for some fun with the grays that rioted in the ancient chestnuts. The first grouse rocketed from under an old apple tree at the edge of the hill orchard and sideslipped behind an aged sugar maple on which my shot pattern printed perfectly. As I stared unbelieving at the vivid scars, two more grouse got up and glided down hill in perfect position for straight-away shots while I stood and watched, fumbling with the breech of my single 12 gauge. That set the pattern for the day. I fired shot after shot at what seemed to be perfect chances and the birds flew on without the loss of a single feather. The old Climax shells jarred my shoulder into a blue, black and red symphony and my confidence skidded like a warm thermometer that

had been exposed to a zero morning. Hanging my open gun over my arm I started down the old prop road toward home, scuffing the fallen leaves in disappointment.

The hollow butt of a white oak faced the sun a few yards to the left of my path. A grouse took his ease in the dust of the decaying wood, disdainful of the danger that approached. Thinking to slip away unseen he walked slowly out of his dust bath and edged around to put a tree between himself and the gun.

Humble Subject

His movement as he left the tree caught my eye and provided the time needed to slip one of the remaining loads into the gun, and snap the breech shut. At the click of the lock the grouse roared away toward the hemlock thicket below. Before he had gone a rod the old twelve belched its load of 6's in the general direction of his flight. Wonder of wonders, he crumpled and came to rest, breast down on the brown leaves in the center of a patch of golden sunlight. Once again the day was beautiful, as I stroked his mottled wings, his spread fan and blue black ruff. From that day I have been a humble subject of "His Majesty the King."

The fire licks hungrily among the logs. There is a murmur of conversation from the next room as the ladies indulge in small talk. I surmise that the topic of interest is the grandchildren. Glenn kicks off his unlaced shoe-packs and stretches his stockinged feet toward the blaze. Contentment tugs at the corners of his eyes. I remember his first grouse. . . .

We walked together down the steep slope toward the creek flats where a month before both boy and dog had learned to find and follow the tittering

flight of the woodcock. Occasionally his deepening voice had broken toward childish pipings in moments of excitement. Here, too, he learned to give the age-old call of the field, "Mark. . . . Bird. . . ."

A small cove opens from the valley. Here the lush greenness lingers long after the other vegetation has been seared by the frost. Tufts of clover and wild strawberry plants grow here. Wild grapes climb about the trees that border the clearing, and a spring-fed brook provides both water and gravel. Here is grouse habitat of the rare sort reaching from the hardwoods on the slope to the evergreens of the farther swamp. For 30 seasons the grouse have been here.

I send them in ahead . . . a boy and his dog . . . trusting the birds will get up at the proper angle to give him a fair shot. I should have taken account of the perversity of fate . . . and grouse. The pup ranging a bit wild, finds feeding birds among the vines, some distance up the slope. They roar with hurtling speed toward the swamp. I groan as I mark their high crossing course. The gun comes up to the boy's shoulder, smoothly swings with the rear bird for a split second. The check is marked by a puff of feathers and the bird drops almost at the gunner's feet.

Not Quite Steady

His hand is not quite steady as we admire the sleek back and spread the broad fan before performing the operation of field dressing. Other days will bring success, failures and frustrations but they will dim into insignificance before the thrill of this experience.

The fire burns low and I add another log to freshen it. . . .

Mel, a younger brother, walked near as we hunted the crest of the ridge. He lacks a year of the age when he can join us with a gun. Bob, another brother, skirts the thickets below. Suddenly I hear his call, "Mark," and the thunder of wings.

Up comes the grouse, putting all the strength of his wings into the effort to gain safety. I swing past him as he crosses high from left to right, almost directly overhead. He is checked by the shot and slants down. Mel runs forward trying for a catch much as an end tries to snare a high pass. Boy and bird collide with enough force to cause Mel to sit down with a grunt, the bird clutched tightly against his chest. His face is such a study of amazement that my uncontrolled laughter brings Bob hurrying up the slope to join in the fun. . . .

Successful Afternoon

I empty the pocket of my stag shirt and find among the litter of dried leaves and broken twigs a fresh sassafras bud. I taste its pungent freshness. . . .

It had been a successful afternoon. A half dozen berry-fed grouse had fallen to our guns. The relaxed fellowship was mixed with good-natured banter as we walked the long trail from Lum's Hollow to the Home Ridge. Only Jack, youngest of the five brothers, had failed to score and was the target of oblique chaffing.

Twilight was deepening toward dark when we rounded the bend in the woods road where the big pine marks the beginning of the downgrade toward home. Jack, walking in the lead, was startled by the thunder of a grouse lifting from a sassafras thicket. As it silhouetted against the sky there was a spurt of orange flame and the bird fell with a soft thud into the trail ahead. We admired it in the fading light and agreed that it was the largest and finest grouse of the day.

Later as we sat around the supper table in the big farm kitchen, living again the experiences of the day, Jack chuckled softly. Beginner's luck had truly given him the last laugh. . . .

Why do grouse prefer to spend the afternoons in those secluded mountain coves tucked away on the high



THE GROUSE'S MOVEMENT as he left the tree caught my eye. I slipped one of the remaining loads into the gun and snapped the breech shut. . . .

benches? Experience has taught us to look in such spots, particularly those with a southern exposure. This bit of observation helps to find sport when the feeding covers are empty.

It had been a fruitless morning. Birds flushed wild and I had muffed the only fair chance that had been offered. It was with scant expectation that I climbed toward the Gum Spring Cove.

A gray squirrel slid around the bole of a huge maple and although I had no intention of using him as a target, I could not resist the woodsman's game of tossing my cap to the other side of the tree just to see him come sliding around to my side to peer fugitively over a convenient crotch, seeking the cause of the disturbance. As I stepped forward to pick up my cap a grouse exploded from a small

clump of mountain laurel. I spun around and fired instinctively as it towered toward the treetops. Up, up it went in a tight spiral while I watched amazed. All at once its wings folded and it fell almost at my feet. Autopsy revealed a single pellet lodged in the brain. . . .

Old Max was a setter with doubtful shadows in his ancestry. His queer personality quirks included a fondness for June bugs. As an individual he proved to be an efficient if somewhat erratic gun dog.

The edge of the woods was festooned with wild grapevines and the old field had its clumps of sumac and dewberry vines. While we hunted the cover a bird got up wild, but within range. I swung and had the satisfaction of seeing it slant down. Max raced away, but just as he reached the bird it



I SWUNG and had the satisfaction of seeing the bird slant down. Max raced away, but just as he reached the bird it came thundering back. . . .

came thundering back with such speed I had only time to dodge out of the way. Had I not done so I am sure it would have struck me full in the face. To my surprise it fell dead a few yards

away. Again I could find but a single pellet. This one had penetrated the heart.

The logs have burned to red coals and white ash. Glenn stretches sleepily. It has been a good day. . . .

Broke Jinx

Ritzie worked the first bird perfectly and it had gone down on a straightaway, at shoulder height. When she pushed the second bird from a thicket Glenn missed it coming in and another as it went away. A half dozen birds flushed along the edges of the rhododendron beds without giving us a shot. At the very edge of the thickets a young, less wary bird had made the mistake of going across the open in a ground-skimming flight. That broke the jinx. The south slope with its matted grapevines yielded another pair and we were content.

The fire is a heap of ashes with only here and there a bright coal. The clock strikes the midnight hour. Tomorrow we will close the season for another year.

Fooler

A rattlesnake has, on the average, two (not one) rattles for each year of its age.

No Hurry

The eyes of black bear cubs don't open until the cubs are about 40 days old. Even then their vision appears to be poor for several weeks.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



Ringnecks on Your Own

By The Reverend George L. Harting

CONSIDERABLE respect has been shown a friend of mine for his skill as a bird hunter. He consistently takes his legal limits of ringnecks and when asked: "Do you use a dog?" he replies, as he slaps his thighs, "Yes, two of them. These dogs—my own!" He is by no means a purist; that is, a hunter who pursues only one type of game. He equally enjoys taking a squirrel or a mallard, so in effect he is constantly seeking a mixed bag, and



A RINGNECK will often crouch and hold in a small patch of cover, gambling that the hunter will pass him by. You should kick out such areas.

because of this he feels a dog of the canine variety simply does not work out for him.

Right or wrong in his analysis, my acquaintance joins the thousands of nimrods who stalk or flush their birds—a procedure that can become a frustrating undertaking. Legion are the occasions when the “dogless” hunter comes home dog tired.

There are, however, a few basic principles which allow one optimism and add some guarantee of success to this rugged sport. After 30 years of exposure to the tricks of the crafty ringneck and the bagging of over 200 of these “glamour boys,” there are a few tricks to be flushed from one’s bag of experience.

Proper introductions are always in order, and such is the case with the ring-necked pheasant. Though strong in flight, his superiority is not here—the grouse, teal and others surpass him in some aspects of flight and takeoff. This, however, does not make him any less a rugged individual.

It should be noted that when this Oriental is seen perched on the back porch banister or feeding with poultry near the chicken coop in suburbia, he

is out of caste. In agricultural areas, marginal lands or in woodlots he is a strong contender.

Crazy antics are not the exception for this import. He may be regarded as stupid when he attacks a grower pursuing his chores. And birds have been observed to follow relentlessly the farmer’s tractor for hours as the spring plowing gets under way. They also have shown bitter hate for domestic life twice their size or, in contrast, have struck up an intimate affection for them. Figure him out? One can’t! This is exactly the quality about this bird that makes his presence desirable on the game list.

There are two facts about the ring-necked pheasant that will be helpful if appreciated by the man who hunts his game without dog. One of these is his steady temper to crouch and hold; the other, his rugged physique.

This fine game bird is a “deep freeze” artist. If he assumes a place of hiding is safe, he will have to be trampled before flushing. My first bird, taken over 30 years ago, was a half-grown rooster attempting by his crouch to blend into a cleared corn row. More birds than can be tabulated elude us by a very narrow margin and are spared for another day.

Push Out to End

A gunner was overheard lamenting the fact that the day before birds were “all over the place, but now you can’t find any.” He was in the end rows of standing corn; just six feet beyond stretched a honeysuckle-covered gully. A partner possessing wiser judgment said, “Push out to the covers.” Three additional steps flushed a bird from his hideaway to add to the gunner’s bag.

In contrast to the deep freeze is this Chinaman’s capacity for the “cross-country.” This, experts affirm, drives their dogs crazy. The east bank river flats of the Susquehanna are brushy wooded areas at points—good cottontail country. Here, one day, two

beagles opened tongue on a straight-away. "It's a deer they're tracking," judged the owner as their voices could scarcely be heard in the distance. Then, faintly, a turn of direction was noted, and a half hour later the "deer" was eliminated—when a sharp report from my friend's 20-gauge pump placed a ringneck in the bag. The bird at the time was still well ahead of the hounds and flushed only when it ran straight into the hunter.

Late season corn picking operators report that birds will ignore noisy machines, but will be running fields ahead of pursuing hunters.

Either trait, deep freeze or cross-country, is problem enough for the gunner, but his real dilemma arises from not knowing which stunt the bird is pulling. The average hunter who drops a cripple is almost helpless in cover. Is the bird crouching close at hand or has it taken off for the unknown? He doesn't know.

But before these problems drive one to trade the over-under for golf clubs, a few positive aspects should be considered, for flushing ringnecks can become something of a fine art if the following principles are kept in mind.

Hunt Intensively

It is far more fruitful to cover a reasonable-size area carefully than to skim over many acres. Consider a case in point: Heavy fog blanketed north-east Pennsylvania for the first two hours of the opening day. We were on a small Lehigh County farm. Imagine a rectangular plot of ground some 150 yards wide and a quarter mile long. Adjoining the north and east boundaries were grasslands, at the south end was a safety zone, and the west boundary was an improved township road.

The tenant confined his hunting to the safety zone until the fog lifted. While it was clearing he saw quite a few hunters in groups of two or three enter from the adjoining farm on the long east boundary and strike out

across this narrow rectangular plot at random. Not a single bird was taken. When the crowds cleared, the resident laid his plans. He moved slowly along the east boundary calculating that the other hunters had moved birds in from the adjoining farm. His strategy was to work the entire farm with careful and regular 30-yard swaths. As no shooting resulted, he assumed that birds had crossed most of the field and stopped near the west boundary road. Here, reluctant to cross, they probably had pulled a deep freeze. Assessing the situation in this manner, the last several swaths were narrowed down to 10 or 15 yards. On the last round, just a few yards from the road, the payoff occurred. Two roosters flushed. Birds that had eluded the random passes of the many were now a double offering for the intensive hunter, and he dropped both.

Analyze the Cover

As already alluded to above, this is a must. The conclusion must work out

PHEASANTS OFTEN hesitate before crossing a road, and a smart hunter can sometimes bag his limit by cutting them off before they reach it.



to the advantage of the hunter, not the bird that can outrun man and beast. Let it be established that a 20-acre field is to be the scene of action. If on the east boundary there is a stand of timber, the field should be worked away from such cover. The hunt should be planned so that it will be completed in an area of good visibility, such as along a newly seeded field, a country road or a low pasture. Running birds, reluctant to cross these open areas, often freeze, giving the intensive hunter his opportunity to move in and kick them out.

Keep Birds Guessing

Silence is frequently more fruitful than beating the wood. Crouching birds apparently feel secure so long as they can locate their pursuer. Occasional pauses, particularly in thick high cover, are effective in "worrying out" birds.

Rush Sneakers

On rare occasions a hunter will locate a bird by the movement of high cover at close range. In such cases, greenhorns with good intentions move into "sneak gear" and arrive, too late, where the movement was spotted earlier. They are quite surprised to find nothing but grass, now quite still. Moving birds must be rushed with vigor and flushed; this is not a situation that lends time for campaign strategy.

Consider Travel Corridors

The pasture lands on a Lancaster County farm were separated by cultivated fields. A narrow fenced lane was constructed to drive the cattle through farmlands from one pasture to the other. Both pastures and the lane offered considerable cover for pheasants.

In one season, several birds were bagged in this connecting cattle drive. The owner, returning from a forenoon hunt on adjoining lands, moved birds from the first pasture. With cunning only a pheasant possesses, the roosters tried to use the cover of the lane as a

Give

GAME NEWS

To a Friend . . .

route to the second pasture and cover beyond. Again, a small patch of trampled ground and low grass at the end of the lane caused these birds using the corridor to hold temporarily until the hunter flushed them.

Drive Strip Contours

It has often been said that deer cannot be driven, only moved. In similar manner it must be admitted that only with difficulty can pheasants be flushed from standing corn or high weeds. In many instances corn strips and fence-rows are driven, with one gunner placed at the end of the strip where he stands quietly while a partner moves in from the opposite end. Here, however, is a technique that calls for a strict and wise set of safety rules.

Use Competition to Advantage

Usually we have unkind thoughts about another hunter who arrives at our favorite spot first. But you can use him to your advantage! One day I intended to work a field of standing harvested corn. As I approached, I was greeted by a resounding serenade of beagles. "That's that," I figured. In disgust I listened, watched and waited for results, but none occurred. Deciding I should make more and better use of my time, I moved along an abandoned railroad that bounded one side of the field. In jig time I flushed and bagged one bird and missed a second. It was then that I sat down and assessed the situation: The beagles had moved a flock of birds that used the cover of the rail bed as an escape route. I might have come home with an empty game bag that day had it not been for the aid of my competitor.

When a fellow hunter is encountered in the field, it will pay dividends to observe his actions. As he moves,

he drives game. He has already covered ground for you; pick up where he left off.

Keep Cool and Swing Steady

The thunder of a ringneck's takeoff can fluster a hunter. Success here calls for poise and precision. A limited number of gunners fill their bag when the first flock of birds flushes. It behooves every hunter, therefore, to develop poise and not panic as a bird or birds flush unexpectedly. This might be the day's best chance.

Most misses occur due to "panic shooting" or inadequate lead. Crossing shots are most effective when the lead is correct and shot is placed into the head, neck, wing or chest area. Keep the shot well up front. Straightaways give greater shot resistance unless vital spinal centers are struck.

Light loads and shot as small as 7½s often prove effective while on occasion magnum loads fail. Placing the shot pattern makes the difference.

The most recent hunt on which I took part began on the high point

overlooking a wooded valley a mile below. Our course followed the left border of the woods, taking a circular direction and ending as we came back to the high point where we began. Cover that was void of birds on the way out produced four ringnecks on our return.

Here is vivid example that birds can be "rounded up," driven to the edge of clearings, or trapped and there induced to hold. Such may be the successful strategy of the hunter who uses no dog. It can be done.

The novice begins with rules; enslaving they are, but necessary. As promotion is earned, rules evolve into principle and finally both may be laid aside for that "sense of feeling" which directs a hunter to move two corn rows to the left, tramp that corner to the right, skim over this section and search another carefully, or work this field toward the road. Chips that are gathered from the block of experience direct and determine the success of the initiated pheasant hunter who is afield without a dog.

COOPERATIVE EFFORTS of several hunters can lead to full game bags, even if no dogs are used, as these men show.



JOHN SMITH





By NED SMITH

November--a month of somber browns and distant purples, of cold rains and soggy leaves. But most of all, a month of small game, waterfowl and bears--a month for hunters . . .

NOVEMBER is the month of transition, the period between the gay foliage of October and the sparkling whiteness of December. Unfortunately, it enjoys little of the glamour of either. After leaf-fall only the brightest sunshine and the bluest skies can dispel the somber browns and grays and distant purples of a typical November landscape.

But the hunters of Pennsylvania wouldn't swap it for any other month. It is "hunting season," the right time to be afield. Small game, waterfowl, turkeys, and bear are legal game, and the gunner who doesn't make the most of the month simply isn't with it.

Non-hunting housewives and easy-chair addicts don't agree, but their arguments can be shot full of holes by any outdoorsman. Crawling down into their coats to dash from house to car they complain about the cold. These indoorsmen don't seem to realize that cold is the absence of heat, and heat is what makes the hills steeper and rabbits sour in your hunting coat. They complain that the frost has killed off their pet flowers, but it has also killed the weeds that prevented you from seeing the rabbits that Old Belle kept bringing around. The winds and cold rains that chase sissies into their

houses also dampen the ground for hounds and squirrel hunters and clear the view for grouse hunters.

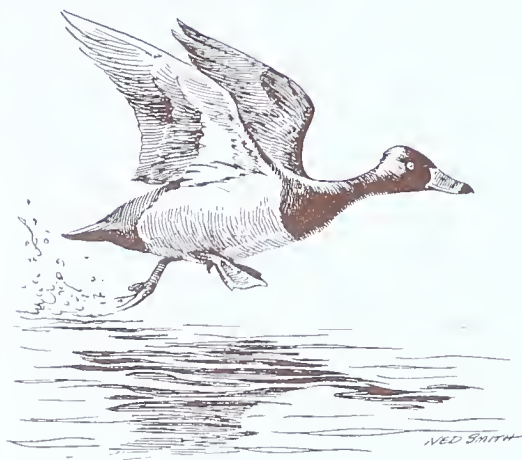
No doubt about it—a great many people simply do not understand what November is all about. But maybe it's just as well. There are already too many hunters in the places *I* want to hunt!

November 1—There's no earthly reason for a fellow to get upset if the grouse covert he recommends should fail to produce; it's enough that he shares his secret spots. Nevertheless, I always breathe easier after the first flush when *I'm* the "guide."

This afternoon I felt that on-the-spot feeling when Jim B. and I loaded our guns and started through an old slashing that I had previously described in glowing terms. It was still more pronounced after we had systematically probed each vine-draped windfall and kicked each impenetrable slash pile and thicket. Finally, just before we ran out of cover, I heard the muffled roar of wings and glimpsed a grouse skimming over the whippy cover ahead. Jim's gun barked, and the bird collapsed in midair. Now we both felt much better.

As we swung about two more birds

got up out of sight, apparently flying toward the ear. Hunting in that direction we failed to jump them, but were sure they were close by so we beat out the little draw near the parking place. As Jim turned aside to investigate a dense tangle of grapevines the two grouse roared out of the opposite side, giving him a mere flicker of a chance. He tried a snap shot, but missed.



Following them up, we each tramped out a different windfall along the line of their flight. I had just about given up when a grouse scrambled from beneath the logs and took off. At the same time Jim yelled, "There comes one!" My first shot killed the one I'd put out, but Jim's bird, which nearly parted my hair crosswise, escaped without drawing fire.

"That was a great bit of action," Jim laughed. "I didn't know you jumped a bird, and couldn't understand why you were shooting in front of you when the bird I put out was flying right over your head."

He didn't mention following up the bird that had outsmarted us. In fact, he suggested that we call it a day and give my favorite covert a rest. With an attitude like that I might even take him to my *best* spot some time.

November 2—The mild weather is keeping huge numbers of birds in our

area that would normally have moved farther south by this time. This morning I saw several hundred cowbirds and red-wings in a field near Killinger, and flocks of twelve to fifteen meadowlarks are common.

November 6—Took the 22 rifle for a walk this morning, hoping to find some squirrels in the big oaks on the south side of the mountain. It had drizzled most of the night, but even though the leaves were still damp and noiseless underfoot the hunting wasn't easy. I caught sight of quite a few bushytails scampering along the high limbs, but none on the ground. They were extremely wary, and from their vantage point it required a combination of stealth and luck to pull off a successful stalk. I finally managed to bag four of those I saw. The other eight or ten apparently knew more about hunters than I knew about squirrels.

November 9—Being a shutterbug can be a pain in the neck. This morning I was trying to find a grouse in the laurel along Doe Smith's run, when a nice buck went crashing out of the thicket not fifty feet away. Apparently he had been battling the laurel in a rutting rage, for the woody stems were twisted and broken; shattered white wood and dangling clusters of upside-down leaves disfigured the thicket.

"I should have a picture of this," I thought, laying down the shotgun and unlimbering the camera for a few close-ups. That's when the grouse took off—ten feet away, in the open, and straightaway.

Muttering to myself, I grabbed the shotgun and took off in the direction he had taken. I never got the pictures. As a matter of fact, I never found the grouse, either.

November 10—Steve stopped in with a mess of mushrooms today—pale yellow fungi called equestrian tricholomas. Squatty plants, they grow in hard pine woods and often do not

quite protrude through the pine needles and leaves. They are abundant in the fall, usually free of insects, and are tops in flavor and texture. Folks in many areas have fondly nicknamed them "pineys."

November 12—Examining the contents of grouse crops is an education. The two birds I bagged today were stuffed like pillows. One's crop held nineteen acorns (not little scrub oak acorns, either), twelve unidentified buds, four witch hazel flowers, sixty-two pieces of wintergreen leaves, and three blueberry buds. The other contained seven acorns, 174 witch hazel flowers, eleven buds from the same plant, fifteen pieces of various leaves, seventeen assorted buds, and one spider.

November 14—Jack was setting out decoys with the canoe and Jim was brewing a pot of coffee when I arrived at their shanty on the riverbank just before daybreak. Ben was there, too, having driven up from Hershey.

Just after starting time a big puddle duck dropped out of nowhere and landed among the decoys, so Jim played host and paddled Ben out in the sneak boat. The river was high and swift, and they had to lean into their stubby paddles to make time against the current. But the duck held. Through the binoculars I saw Ben, crouched behind the boat's blind, lay down his paddle and pick up his gun. Then, with a few hard sweeps of the paddle his pardner "opened" the boat, turning the bow toward the duck. As Ben swung into the open the duck sprang from the water, but the first load dumped him back into the river. It was a big mallard-black cross.

While we ate breakfast four mergansers drifted down the river and joined our decoys; a few minutes later a pintail dropped into the spread. Jack and I made the run. The pintail was nervous—through the slit in the blind I could see him pacing back and forth, head high, neck straight. At that

he might have held, but for the mergansers. Off to one side, they could see us behind the blind. As we feared, they jumped and spooked the pintail just out of range.

Later we ran a ringneck drake, but he jumped before the boat was completely open. Being a southpaw, I couldn't get clear of the blind until he was too far out.

Before noon Jim moved the spread, plus a couple of redhead decoys, to a place opposite a brushy point above the Half Falls Island. Then we took time out for lunch.

Ducks were streaming upriver by the dozens, and many came drifting down on the fast current. We took turns trying to run them, but they were strung out too widely to approach.

Back at the shanty we stoked up with more chili and coffee while Ben and Jim paddled out after a pair of widgeon. The latter dug in their webs, headed downstream, and the chase was on. The ducks paddled hard; the hunters paddled harder. About 100 yards below the decoys the ducks separated, then flushed out of range,



leaving the weary hunters to buck the current back to the shanty.

After a rest they set out again to run some drifting ducks. Working their way upriver from one small flock

to another they finally found a pair of big blacks that would hold, and collected them.

To finish off the day we all moved out to a brushy point above the island, Jim and Ben concealed in the brush in the canoe, Jack and I in the eddy behind them in the sneak boat. The decoys rode convincingly just off the side of the point. Most of the evening flight was at high altitude, but the fellows in the canoe nailed a lone teal that streaked downriver right over their heads.



Just before the closing hour Jim announced that a flock of ducks was drifting down the river toward us. But they weren't drifting fast enough. With only five minutes left until quitting time, Jack and I eased the sneak boat out of the eddy and went after them. They swam steadily upstream as we tried to close the distance and for awhile it looked hopeless. Then we started gaining on them. A baldpate hen was the closest, and at the proper time I put away the paddle and picked up the 12-gauge. Then I felt the powerful surges of Jack's paddle and the bow swung to the left. For an instant the hen was caught flat-footed in the open. She left the water in an explosion of spray, but the first barrel caught her on the rise. She planed to the water and was dead when she hit.

November 17—Either Ben has a sixth sense about flying squirrels or he's lucky. This afternoon he strode up to a hollow dead chestnut tree in the middle of the woods and announced he was going to rap out some flying squirrels. He whacked the tree with a stick, and out shot three of the little animals. One skimmed into a nearby oak. The other two scuttled around the trunk above the hole, where they clung spread-eagled to the rough bark and watched us in wide-eyed innocence.

November 23—Paddling down the west side of Clemson's Island this evening I heard the cry of a loon coming from the other side. What a sound! More than any other it brings back memories of North Country lakes and stormy nights when the weird whoops and maniacal laughter could be heard above the thunder and rain. Rounding the island in the near darkness I looked up in time to see him winging downriver, neck drooping, big feet trailing behind his body, a strange silhouette against the ominous November sky.

November 27—It's late for chipmunks to be above ground, but today I watched one for more than an hour as he gathered acorns and carried them into his burrow. He traveled precisely the same route on every trip. Leaving the hole he scampered through some blueberries, leaped onto the middle of a small log, ran to the end and jumped to a pointed stone, from there to a tree trunk, ricocheted off the trunk to a square rock, then to the ground. From there he foraged. Upon finding an acorn he peeled it, nipped off the sprout, and stuffed it into his cheek pouch. With pouches loaded and usually another acorn in his mouth he returned to the burrow, retracing his route from rock to tree to stone to log and through the blueberries to his burrow as though following an invisible track. . . .

Hundreds of thousands of times each year, successful whitetail hunters have been asked: "How much does your deer weigh?" Most could not say—until now. Here is an accurate, easy method that explains how to . . .



DEER HUNTERS NEED no longer guess at trophy's weight. Tape measure and chart give answer easily.

Weigh Your Deer With a String

WHEN A HUNTER kills a deer, the conversation that follows almost invariably concerns the size, weight, age and physical condition of the animal. Each hunter seems to have his own theories or "rules of thumb" for estimating the vital statistics of deer, and many friendly arguments, which seldom can be settled by reference to any source of facts on the subject, ensue.

The purpose of this article is to report the results of measurements taken on 13 white-tailed deer at the Pennsylvania State University Deer Research Facility. These known-age animals were subjected to very careful

measurements and dissection into their component parts. They ranged in age from 12 to 39 months and in live weight from 85 to 233 pounds. Nutritional status ranged from the lean, skinny carcass, normal to the yearling animal at the end of winter, to the well-fattened mature buck with fully polished antlers in September.

Measurements taken included live weight, field-dressed weight, hog-dressed weight, weights of hide, blood, muscle, bone, fat, heart, spleen, liver, lungs, kidneys, testicles, stomach and intestines (both full and empty). Also, measurements of all "outside dimensions" of the animal were recorded,

including heart girth (chest circumference behind shoulders), girth of neck, stomach and flank, length from ears to base of tail, height at withers and rump, and length of hind foot (tarsus). In addition, the area of the hide was determined by marking its outline on a sheet of polyethylene, being careful to stretch only to the dimensions measured on the intact animal, then weighing the cutout plastic sheet to determine its area from the known weight per square foot.

Surface Area

This surface area measurement, as well as some of the organ weights and other measurements mentioned above, may be of little interest to sportsmen, but is valuable to us in our deer nutrition research. It is generally agreed by nutritionists that "metabolic size," which in part determines the nutrient requirements of the animal, is more accurately expressed by the surface area than by the live weight.

The following table expresses relationships that may be of interest to hunters and useful to game management personnel.

Heart girth (circumference of the chest just behind the forelegs) has been used for many years for estimating the weights of live cattle in the dairy and beef industries. From our data on deer carcasses, it was apparent that there was a fairly consistent relationship between heart girth measurements on the dead deer and live weight, expressed by the equation

$$\log Y = 1.1 + .029 X$$

where Y is the live weight in pounds and X is the heart girth (chest circumference) in inches. This equation was used to compute the live weight values shown in the tables for one-inch increments of heart girth from 20 inches to 46 inches, or for deer weighing from 49 to 286 pounds.

To use the table, if the heart girth measurement is known, other values can be determined by reading horizontally across the line opposite this dimension. Similarly, if the deer has been weighed in the "field-dressed" or "hog-dressed" condition, other factors can be determined by entering the table in the appropriate column and reading off values in the same line as the determined weight. For example, a hog-dressed deer (hide on but entrails, heart, lungs, and liver removed) weighing 99 pounds would have a field-dressed weight (heart, liver and lungs left in) of 104 pounds and would have weighed about 127 pounds alive. If no scales had been available, these weights could have been obtained by measuring the heart girth, which would be about 34 inches. This same deer, the table indicates, would have had about 7 pounds (3½ quarts) of blood, about 10 pounds of hide and 16 pounds of bone (excluding bones of the head). The lean meat remaining would be about 57 pounds, which would leave about 9 pounds of the original 99 pounds "hog-dressed" weight to be accounted for as fat.

The reader should be cautioned that the values are estimations based upon equations computed from measurements and weights obtained on only 13 deer and that the lightweight deer in this sample were very lean animals, the smallest being an 85-pound yearling buck, while the heavier deer were slaughtered in the fall when they were in excellent condition. For this reason, small deer in good condition would tend to weigh more than the table indicates, while large deer in poor condition would weigh less.

This article was prepared by R. L. Cowan, E. W. Hartsook, J. B. Whelan, J. L. Watkins, J. S. Lindzey, R. W. Wetzel and S. A. Liscinsky, all of whom are involved in the Deer Nutritional Studies at Pennsylvania State University. These studies make up a research program being carried out through the cooperative efforts of the University and the Pennsylvania Game Commission.

Table for Determining Live Weight, Dressed Weight, and Other Carcass Information About Your Deer if You Know the Heart Girth Measurement of the Dead Animals^a

Heart girth ¹ (dead deer) (in.)	Live ² wt. (lb.)	Field- dressed ³ wt. (lb.)	Hog- dressed ⁴ wt. (lb.)	Hide wt. (lb.)	Blood wt. (lb.)	Bone wt. ⁵ (lb.)	Edible lean meat (lb.)
20	49	36	32	1.9	3.3	8.0	23
21	53	39	35	2.3	3.5	8.4	24
22	56	42	38	2.6	3.6	8.8	26
23	60	45	42	3.1	3.8	9.2	28
24	65	49	45	3.5	4.0	9.6	30
25	69	53	49	4.0	4.2	10.1	31
26	74	57	53	4.5	4.4	10.7	34
27	79	62	58	5.1	4.7	11.2	36
28	85	67	62	5.7	4.9	11.8	38
29	91	72	68	6.3	5.2	12.5	41
30	97	77	73	7.0	5.5	13.1	44
31	104	83	79	7.7	5.8	13.9	47
32	111	90	85	8.5	6.1	14.6	50
33	119	97	92	9.4	6.4	15.5	53
34	127	104	99	10.3	6.8	16.4	57
35	136	112	106	11.2	7.2	17.3	61
36	145	120	114	12.3	7.6	18.4	65
37	156	129	123	13.4	8.1	19.5	69
38	166	139	132	14.5	8.6	20.6	74
39	178	149	142	15.8	9.1	21.9	79
40	191	160	153	17.1	9.7	23.3	85
41	204	172	164	18.6	10.3	24.7	90
42	218	184	177	20.1	10.9	26.2	97
43	234	198	190	21.8	11.6	27.9	103
44	250	212	204	23.5	12.3	29.6	110
45	267	228	219	25.4	13.1	31.5	118
46	286	244	234	27.4	14.0	33.5	126

¹ Distance around the chest just behind the forelegs in inches.

² Weight of the animal "on the hoof" (before bleeding).

³ Weight of the carcass with entrails removed, but with heart, liver, and lungs left in.

⁴ Weight of the carcass with entrails, heart, liver and lungs removed.

⁵ Excluding bones of the head.

^a If a tape measure is not available, heart girth may be measured by means of a string drawn snugly around the chest, just behind the forelegs; then measure the length of the string with ruler or yardstick.

Data collected and compiled by The Pennsylvania State University, Department of Animal Science and the Pennsylvania Game Commission, Division of Research.

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One Way to Learn

Although a buck deer ignores his fawns, a fawn may sometimes be seen "hero worshipping" a big buck—following him, imitating him, or just staring at him in what might pass for amazement.



Two Teaspoons of November— Twice a Day!

By Ima Mazed

As told to Lois Kerr

YA KNOW, the way I got it figgered out some of those guvverment fellers workin' in things like Health and Wellfair are really missin' the boat. Them revenooers wouldn't hafta have their hands in our pockey-books so much gatherin' money for meddycare and the like, if they'd just figger out how to mannyfaksher that sartin somethin' that enters the blood-streams of the male poppylace come November and December. That'd be a medicle brakethroo really wurthy of one of them Know-Bell prizes.

Ya know what I'm talkin' about, don'cha, gal? That pheenomenon that turns that poor weak master of the house into a red-blooded he-man . . . **HUNTING SEASON!!**

In the good ole somertime jest the menshun of the fact that the kids and dogs are gettin' lost in that high grass in the backyard is enuff to bring on a bad case of the sigh-attic-a or lum-beg-oh. The poor ole geezer couldn't begin to push that power mower acrosst that flat, level lawn. But come November, this very same feller can drag a three hunnerd-pound black bear all over the big woods!

Then there's the guy who on a nice warm spring evenin' has to rev up the ole jalopy, jest to go down to the korner bizziness establishment for a pack of seegars or a bit of liquid refreshmunt. You'd hardly wreckonize him in November, treking mile after mile up hill and down dale in persoot of the whyly turkey or the eeloosive whitetail. Howling blizzurds and snow up to his hips don't seem to diskerage him atall.

Take my lord and master for example. The very thot of settin' still for jest one hour in church come Sunday

mornin' can bring on a real golly-thumper headache with all of those little hammers apoundin' at once. In the woods, tho, come December, he can set on a deer watch on an ole log for hours on end.

We've got a friend who's got more pill bottles than the old-time horse-and-buggy doctor toted in his poke. He can ketch a cold if someone sneezes way over in the next county. Somehow, tho, comes huntin' season and he can slosh aroun' all day in wet clothes and suffer nary a snuffle.

I shore don't know what kind of jerm or vyirus brings on these meerac-koolos changes, but if them there sigh-antist fellers could ice-o-late it, they'd shore put an end to most evrythin' that ails the homo-sappy-ends.

The diffрут effects from feller to feller are downrite amazin' too. That November-December what-ever-you-call it can serve eeekwally well as a tranquill-eye-sir or a pep pill.

The insomnyack who tosses and turns all night and keeps the pore little woman from gittin' any shuteye, sleeps like a newborn babe when he returns from the hunt.

On the other hand, there's that ole stay-a-bed who snarls like a bear comin' out of hibernation when ya gently suggest that he'd best get up and have brekfust cause it's only an hour till suppertime. The majik of November makes him bounce out of the sack in the middle of the nite so he can be in the big woods when the furst gray light of dawn peeps over the hill tops.

Yes, indeedy, them medikal dokters would haveta get themselves a new trade if the elixir of November and December could be bottled up and given in dayly doses all year round.



FROM STAND ON CULM BANK, Dick Walton watches for deer in strip-mine area.

The “Strip-Mine” Deer

By Richard E. Walton

STRANGERS who drive through the anthracite coal regions of Pennsylvania usually are bewildered and possibly repelled by the first sight of a strip-mine operation which has ravaged a mountainside and turned it into mounds of rock and soil split by deep voids. In many cases, a large section of the mountainside is broken into small wooded patches and left that way for years to come.

Luzerne County has its share of such mining operations, yet it is amazing how many deer choose to remain in a strip-mined area. I've often hunted abandoned stripping areas and I've seen plenty of deer.

When the deer seasons roll around, strip-mined areas are not avoided by the local nimrods. They know about these deer and they know how to hunt them. The hunter may choose his post atop a 75-foot high culm bank which

borders a wooded area. From this vantage point he can see for several hundred yards in any direction. Or he may join a party of five or 10 hunters who organize a drive through various wooded patches which are surrounded by barren lands or roads once used by heavy equipment while mining operations were in progress.

Several hunting companions and I have dubbed these animals “strip-mine deer.” It's amazing the size of the bucks which have been bagged among stripped areas in Luzerne County. The strip-mine deer is no different than those that inhabit the more heavily wooded areas. He's just as elusive and the venison is just as tasty.

To those who regularly hunt the heavily forested lands, hunting amid stripping operations may seem very strange. There is a sharp contrast between standing on post in the wooded

areas, usually with limited visibility, and waiting out your deer on top of a culm bank with a panoramic view.

Each man has his own opinion on where to hunt deer. Until I started hunting the stripped mountainsides, such a place would be my last choice for hunting.

I hunted a particular strip-mined area of Luzerne County during the last antlerless deer season. The hunt was short and sweet. I could not get into the area until 9 a.m. on opening day. The ground was coated with ice, and a mixture of sleet and rain was pelting the crusted earth.

I chose a patch of woods not more than 150 yards square. It was bordered on one side by a power line and on the other three sides by cleared areas from an old mining operation. Only five minutes passed before I heard what sounded like deer moving across the ice-coated, fallen leaves. Five antlerless deer soon came into view about 40 yards ahead of me and made an abrupt left turn. They were heading in the direction of an open area when I selected one and squeezed the trigger. The other four scattered across the open land and into the next patch of woods about 100 yards away.

Car Pickup

There were no tangled thickets or swamps through which to drag the deer. I simply went back to my car and drove it to within 50 yards of the field-dressed deer.

Prior to the deer seasons, Stan Sowa, a close friend and hunting companion, and I frequently travel these roads through old stripping operations in his four-wheel drive Scout. In many places it takes several hours just to traverse one mountainside. It's not unusual to see small herds of deer making their way across the roads and culm banks.

The strip-mined areas are also inhabited by grouse, rabbits and squirrels. During the off-season, blue jays provide plenty of shooting on a



HACKED-UP MOUNTAINSIDES still provide lots of whitetails for hunters in anthracite regions.

stripped mountainside near Glen Lyon, a small community several miles south of Nanticoke. When the jays are flying, hunters start up the mountain at daybreak. A winding road made by coal operators makes its way to the very top of the mountain, where several blinds have been constructed. From these blinds, the jay hunters are afforded a bird's-eye view of the valley below.

Sometimes the deer that inhabit the stripping areas meet strange fates. Patrolman Al Forgach of the Newport Township Police Department told me about a large buck that decided to roam around an active mining operation in that Luzerne County township. The deer ran off the edge of a small cliff and landed inside a mine coal car which had been idle on tracks just below the precipice. In another case, three dogs cornered a big buck in a stripping excavation and the buck lost the fight.

Next time you're looking for a change of scenery and a different environment in which to hunt, try the anthracite coal region and its strip-mined mountainsides. It's not the *best* scenery in Pennsylvania, but at least it will be a new twist in deer hunting. It could be a successful twist.



Squirrel Haven

By Richard R. Riley

DID YOU EVER have one species of game animal or varmint that just seemed to consistently fake you out of your socks? I guess many people would consider a white-tailed buck the animal you are most apt to come unglued over in Pennsylvania, and there's little doubt the gray ghost of the woods is an illusive, prized trophy.

I wouldn't argue with the choice, but when I was young this was a prize bordering on the unattainable, so a "no-score" could always be lived with until the impossible could happen. Other species fell within the realm of possibility.

When I was a teen-ager living in Crawford County, and my body was suddenly changing itself from a five-foot six-inch tenor into a six-foot one-inch whatchamacallit, one animal, besides the big prize, could humiliate me with ease. This was the common gray squirrel.

Now, the squirrel would be an easy quarry. But in those years, with random attention given only for a short time in small game season, the squirrel seemed as unshootable as a genuine ghost.

But my record of failures (kept exclusively to myself) finally appeared one day to have a gold-bonded chance of being changed with a bang! While crossing through an extensive woodland on a neighbor's farm, I found it! There in the deepest part, in an area full of both walnut and beech trees, I discovered Squirrel Haven.

Their hotel was a thirty-some-foot tall stump with openings all over it.

The flash of a gray tail disappeared in one hole as I blundered into the clearing around the stump which was

solidly ringed with low-limbed beech trees. Since it was late summer, I wasn't squirrel hunting, but the evidence was all around that this was a dream spot for squirrel season.

The spot was very secluded but I kept the whole lovely picture to myself and used the remaining months to plan for a perfect day of squirrel shooting. Dad had given me a hard-hitting 410 shotgun and I owned a good 22 rifle. These had always worked just fine on other small game, but at this point Mr. Squirrel had me convinced that I needed something in the artillery line to come out even. My neighbor and buddy, Warren Walborn, loaned me a hammerless 16-gauge double and a supply of shells loaded with No. 5 shot. Now I was really ready!

It was a day in early November, unusually warm and sunny, before the first snows, when I set out after school for my secret glen, armed to the teeth and fairly gurgling with confidence. I came into the area as quietly as possible, but several blue jays had set up a warning vanguard so the trees were deserted when I arrived.

Squirrel Hotel

After clearing the leaves away from the base of a spreading beech tree about twenty yards from the staring "squirrel hotel," I settled down in a comfortable position, wanting to give the jays time to forget my presence and to become a part of the seemingly deserted woodland.

The warm sun and fragrant leaves made it a very nice place to be. The pictures in my mind of the Nimrod way I would handle this golden opportunity were varied and colorful.

My comfort, however, soon converted Nimrod into a youthful Rip Van Winkle, and planning was soon replaced with dreaming.

I've been told I snore. I'm not sure, but occasionally I'm awakened by what sounds like a diesel truck starting, only to find myself and my irritated cat alone, so we will grant it is a possibility.

What awakened me isn't a certainty, but what greeted my eyes was a sight neither my plans nor dreams had created.

Curious gray squirrels were hanging from the low limbs of my backrest as near as their foot perches could allow, like fluffy gray-and-white Christmas tree ornaments looking at a big present.

No doubt my appearance and sounds had them convinced they had discovered the world's largest nut, and very close inspection by five fat, curious gray squirrels had brought them almost within arm's reach.

My bleary-eyed awakening to this unimagined turn of events brought

WHEN I AWAKENED, curious gray squirrels were hanging from low limbs like Christmas tree ornaments.



BOTH BARRELS of the loaned shotgun were discharged without much aiming—and without any accuracy!

me staggering to my feet, fumbling for the unfamiliar safety, trying to sort out the recommended procedure from my sleep-fogged brain.

Both barrels of the loaned shotgun were discharged without much aiming—and without any accuracy!

As gray squirrels leaped from all directions and scampered in consternation for their hotel apartments, the two full charges of No. 5 shot picked probably a week's supply of beech-nuts as the sounds of my utter futility echoed away from glen to glen.

Soon my humiliation gave way to my sense of humor, as I visualized the wildeyed, bumbling, would-be squirrel hunter r'aring up to come face to face with the apparition of countless squirrels, all straining for a closer look at what was undoubtedly the weirdest sight — and sound — they'd ever encountered!

I left that clearing, never to return for blood, literally hurting from laughter. From that day on squirrels had the real Injun sign on me. I never could bring myself to shoot them. I knew when I had been bested. And besides—how good can you shoot when you're laughing?

Saturday, November 25, the Last Day of the 1967 Bear Season. Daybreak Brought News of a Lost Hunter . . . Illegal Bear Cub Kills . . . a Blind Buck . . . a Four-Point Shot by a Bear Hunter. In Other Words, It Was . . .

One Day in Cameron County

By Jim Hayes

Photos by the Author

TWO INCHES of wet snow had fallen during the night. In the cheerless gray dawn of an overcast November day, Frank Ritter, 41, awoke shivering under the hemlock tree where he had spent the night. His warming fire had gone out.

It was Saturday, November 25, the last day of the 1967 bear season. Frank, a contractor from Carey, Ohio, had left his brother Gerald and hunting partners Frank Thompson and Charles Boyce the previous afternoon. He'd waved to them as he left their pickup truck camper parked alongside the Waldy Run ridge road north of Emporium.

Late in the afternoon he'd come across the bear tracks. He followed them for a long way, not paying much attention to the terrain. When it be-



NEIGHBORS AND SPORTSMEN watch as DGP Norm Erickson and a deputy hoist illegal bear cub kills onto rack.

gan getting dark, he reluctantly decided to head back toward camp. Instead of backtracking, he decided to take a shortcut. He knew he had been moving downhill. He reasoned that if he walked uphill he'd come out on the ridge road.

That had been his first mistake. The second had been to keep going after dark, stumbling around in the woods. Finally he took refuge under the branches of a hemlock tree. He built a warming fire. He shouted and fired

signal shots every half hour. No answer. Just darkness, stillness, and now the dawn.

That same morning, 20 miles to the southeast, a 19-year-old technical school student from Philadelphia waited on a steep mountainside overlooking Wykoff Run. He had never been bear hunting before, had never seen a black bear in the woods. But he was seeing a lot of deer.

He was cold and already discouraged with bear hunting. As he watched and waited, a doe came picking her way across the slope above him. Another doe followed, and then, through the laurel, he glimpsed a rack. A 4-point buck stepped into view. The hunter unslung his 30-06 and watched it through the scope sight.

Monday morning, less than 48 hours away, would be the opening of deer season. He eased the cross hairs to a point behind the buck's shoulder. How easy it would be, he thought to himself. How very, very easy.

Meantime, 12 miles due west, another buck, a magnificent 8-point, paused at the edge of a clearing, testing the wind. Its ears were up, alert. It turned back, took several steps, and walked into a tree.

The deer stepped to one side, started forward again, and walked into another tree. Nose and ears were all it could rely on. Two days before, a hunter had shot at the buck with a shotgun. The pellets had destroyed its vision. Now it was blind and helpless.

While these events were taking place, District Game Protector Norm Erickson was finishing a hurried breakfast in his home in Prospect Park on Route 155 two miles north of Emporium. Norm and his son Lee, 19, had been on the Waldy Run ridge road until midnight, looking for the lost hunter. Now he had to return to the ridge to organize a search party.

Fish Warden Stan Hastings and

Potter County Game Protector W. D. "Pat" Neely had agreed to help out. Stan drove up to Norm's house at 7:15 a.m. Pat would join them at the road junction on Five Mile Dividing Ridge. Local sportsmen and volunteers from the Emporium Fire Department could be counted on for assistance.

Hard to Get Lost?

"A man would have to try pretty hard to get lost in that area," Stan said as they drove to the ridge. "No matter which way he went, he'd be bound to hit a stream he could follow down to a road."

"I only hope he isn't sick or hurt in there," Norm said. "His brother told me he's in good physical condition. Well, there'll be a lot of hunters in the woods today. Chances are he'll walk out to a road or someone will find him."

Pat Neely and a group of 20 sportsmen were waiting on the ridge when Norm and Stan arrived. Within an hour they were joined by 35 more hunters and a dozen members of the fire department. Norm, Pat and Stan lined them up along the ridge road at spaced intervals for a sweep down the hollow. At a signal, the searchers moved into the woods.

Cameron is not a big county, but its 400 square miles encompass some of the wildest, most rugged mountains in Pennsylvania. To patrol it, Norm counts on the help of eight deputies, most of whom were now on duty in other parts of the county. He also gets assistance from Fish Warden Stan Hastings, and he works closely with Game Protectors from surrounding counties.

The first two sweeps down the snowy hollow turned up no sign of the missing hunter. At 1:30 p.m. the searchers regrouped again on the ridge road. "It doesn't look good," Norm told Pat Neely. "If he's able to walk, he should have hiked out to a road or been picked up by other hunters by now. Anyway, we can't tie you up



VOLUNTEER SEARCHERS line Waldy Run ridge road north of Emporium to begin search for missing bear hunter.

here any longer. You've got your own problems in Potter County. You head on back there, and if you need any help, just give a holler."

"You can count on that," Pat said with a grin. "And probably sooner than you think."

At that moment, Stan Hastings joined them. "I talked to a couple of men who found a place under a hemlock tree where a hunter had spent the night," he reported. "They said there were a dozen fired 30-06 cases and a candy bar wrapper beside the burned-out campfire."

"Sounds like our boy," Norm said. "He was carrying a 30-06. Where was this?"

"Deep in the woods near the head of the hollow, about five miles from here," Stan replied. "Instead of walking downstream, as we figured, he must have gone uphill in the opposite direction."

Norm turned to Bill Kephart, one of his deputies. "Let's drive up that

way in the Jeep and see if we can find out anything," he said.

During the drive they kept stopping to inquire of hunters along the way. None had any news of the missing hunter. Finally Bill saw three hunters coming out of the woods. The man in the middle was wearing a red coverall.

"You fellows see anything of a lost hunter in there?" Norm asked.

"I'm the Guy"

"I'm him," the man in the coverall replied. "I'm the one you're looking for. These fellows found me a half hour ago and brought me out to the road."

"Well, jump in the Jeep before you get lost again," Norm said. "We'll take you back to your camper. Your buddies are worried sick about you."

After reuniting Frank Ritter with his brother and friends, Norm headed for home. Arriving there at three o'clock, he found a stack of telephone



ERICKSON TAKES INFORMATION from young hunter accused of illegally shooting four-point buck during bear season.

messages. He riffled through the notes his wife Fran had taken.

Usual Problems

There were the usual reports of road-killed deer. Three hunters had killed cub bears and would be bringing them in to make field settlements. In Wykoff Run, a hunter had been observed dragging a 4-point buck into the laurel. A party of bear hunters confronted him, took his license number, and advised him to take the illegal kill to one of the bear check-in stations.

"I better get on down there," Norm said.

"Aren't you going to eat lunch?" Fran asked. "You haven't eaten since breakfast."

"I can eat later. I'd like to get this case settled today. No telling how many things I'll have to do tomorrow."

It's 16 miles from the Erickson home to Wykoff Run. Norm made it in less than 20 minutes. The student

officer at the first bear check-in station on Wykoff Run Road hadn't seen anyone with a deer. Norm headed up the road.

After two miles, his car passed a Volkswagen traveling in the opposite direction. It had a deer strapped to the luggage rack on the roof. "That must be him," Norm said, wheeling his car around.

He overtook the VW at the check-in station. The hunter, a 19-year-old technical school student from Philadelphia, handed over his rifle and hunting license.

"I'm sure sorry about this," he said. "I thought it was a bear. I was going to turn it in."

"I have witnesses who are prepared to testify that they saw you hiding it in the laurel," Norm said. "Did you figure on coming back for it Monday morning?"

The young man shrugged and looked away.

"Do you have a hundred dollars to

pay your fine?"

"All I have with me is thirty dollars," the hunter said. "I could put up my rifle as security until I call home for the rest."

"I can't make arrangements like that," Norm said. "Maybe you can work out something with the justice of the peace. Get in, we'll take a ride up to Mr. Moths' place."

Justice of Peace

Ten minutes later, they arrived at the office of Justice of the Peace Theodore K. Moths on Route 120, three miles east of Sinnemahoning. At the hearing, the hunter entered a plea of guilty. He paid \$30 on his fine, was permitted to leave his custom-made rifle as security, and given 24 hours to pay the rest.

Norm drove the hunter back to his car and confiscated the deer. It was dark when he arrived home. Three hunters were waiting to make field settlements on illegal cub bear kills. Two others had phoned to say they'd be coming in, also with cubs.

Norm groaned. "That makes seven cubs turned in in two days," he said. "This sure isn't going to help the bear hunting for next season."

After completing the paper work on the field settlements, Norm sat down to the table for his first meal in 12 hours. He had no more than lifted his fork when the phone rang. He answered, recognizing the caller as a sportsman who owned a camp near Driftwood. The man was calling to



OHIO HUNTER Frank Ritter, who spent night in woods, shakes hands with Erickson after being reunited with brother and hunting partners.

report a blind buck stumbling around in the woods.

"Do you know where the deer is?" Norm asked. "If I send one of my deputies to your place, could you take him there? Okay, I'll send someone right over. Thanks a lot."

It was now nine o'clock. Deputies Bill Kephart, Lefty Lapold and Frank Allers arrived to be assigned duties for night patrol. Norm would be going with them.

It had been a routine day. No hunting accidents had been reported. Tomorrow would be Sunday, a day of rest for most people, but not for Game Protectors. The rugged duty was yet to come. Deer season would open on Monday morning.

No Way to Go But Up

Bear cubs weigh less than a pound apiece at birth and are blind and hairless, but increase their weight four times before leaving their winter den.

Biggest Bird

The wild turkey is the largest of America's game birds. Flight speed has been estimated at close to 50 miles per hour.



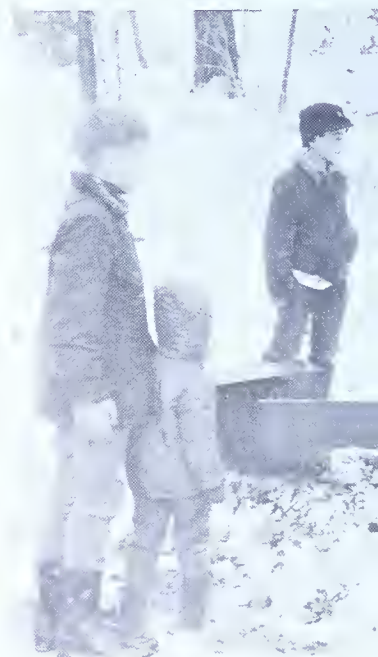
WITH BOX TRAPS supplied by DGP Gene Utech, both youngsters and adults took part in rabbit roundup.

Rabb

BOOTHERED BY BUNNI —practically anything food by rabbits that had t New Cumberland and Me harvested by hunters. To the second year in a row, Game Protector Gene Utec property owners and school took 176 bunnies, 108 squi areas and released them on could be useful in many a



AFTER CHECKING trap with his brother Bill, above, Ed Ward displays catch, a fine cottontail, below.





undup

shrubs, perennial flower bushes
the snow level—were considered
ance in Camp Hill, Lemoyne,
and these rabbits could not be
y, the Camp Hill Jaycees, for
bbit roundup. Supervised by
d 125 box traps, the Jaycees,
in a trapping program which
ported animals from residential
ublic hunting. Such a program
state. Try it.

By John Plowman, Jr.

ROY TREXLER, Bob Clark and Gene Utech unload rabbits, above, while **John Plowman** releases them, below.



CAMP HILL KIDS, left, get kick out of releases, as do Clark and Trexler, Chief of PGC's I&E Division, below.





FIELD NOTES



Hi, Guy!

SNYDER COUNTY—I picked up a new title this week. While in conversation with a young person, I was asked if I was the "Game Guy."—District Game Protector K. W. Dale, Middleburg.



Went for Robin

JUNIATA COUNTY—Deputy Bill Hubler phoned from Port Royal the other evening, and when I answered he said, "I debated calling you because I know what's going to happen, but I'll tell you anyhow. . . ." It seems his wife, Isabelle, had brought in the wash from the line and was about to iron a pair of Bill's pants when a bat flew out of them. She killed it and when Bill was about to dispose of it, he noticed it had a tiny metal band on its leg. This was apparently some sort of a federal bat banding program and Bill felt I should have the information from the tag. I took the information and as I hung up I thanked Bill for phoning in his "Bat Number" and said, "Good-bye, Bat Man." He hasn't called back since.—District Game Protector R. P. Shaffer, Mifflintown.

Grackle Trouble

FULTON COUNTY—Ten years ago I had never heard of extensive damage to cornfields by grackles or blackbirds in this portion of the state, but it is common now and each year the damage seems to increase. Farmers with creek-bottom fields are the hardest hit. Literally thousands of grackles settle in on a cornfield, usually when it reaches roasting ear stage. The ear is opened at the tassle end for several inches. This makes sweet corn unmarketable and generally sours field corn.—District Game Protector C. E. Jarrett, McConnellsburg.

Facts Alter Feelings

FRANKLIN COUNTY—Before the spring gobbler season I had many complaints that the spring season would ruin all of the nests, the hens would all be shot, etc. Since the season, I have received many comments on it—all favorable. Many hunters claimed they like the spring season better than the fall. One gent told me he thought the spring season increased the number of young turkeys this summer, as he is seeing more than any summer in the past.—District Game Protector J. D. Mort, Chambersburg.

Intentional, Yet?

CRAWFORD COUNTY—During the last week of August, I picked up two large fawns that were hit by an automobile. A following motorist reported that the auto hit the first deer and then seemed to swerve intentionally for the second and kept on going without even stopping to survey his own damage.—District Game Protector A. Fichtner, Linesville.

We'd Rather Not Know

HUNTINGDON COUNTY—Huntingdon County has always been known to be a good hunting county. It should also be known as a good rattlesnake county. While mowing along a road leading to State Game Lands 99 (Jacks Mountain), the Food and Cover Corps caught alive 11 rattlesnakes and two copperheads, plus several black snakes. These were all along the road. I'm wondering now how many would be found back in the woods and along some of the rocky areas?—LM W. H. Shaffer, Huntingdon.

Hard to Swallow

CLARION COUNTY—Throughout the summer I had many opportunities to answer questions concerning some of the age-old beliefs about snakes—such as “they swallow their young in times of danger.” This idea may have a logical origin where timber rattlesnakes are concerned, because the young of this species are born alive and over the years females doubtless have been killed just prior to giving birth and when the skin was removed for a souvenir, the unborn young were discovered.—District Game Protector D. Brown, Knox.

Too Stubborn to Jump

ROSS LEFFLER SCHOOL—In August I was assigned to Somerset County for land management practices. One day a buck crossed the road in front of us. It immediately encountered a 12-foot fence. I guess the deer did not see the fence, for he ran right into it. The deer was very persistent. He must have hit the fence about 10 times, coming back across the road on three occasions. When he finally quit trying, he had lost quite a bit of velvet off his antlers and quite a bit of hair off one side of his body. It really showed me the persistence some wild creatures have.—Trainee W. A. Bower.

A High Seat!

ROSS LEFFLER SCHOOL—There are probably a large number of people in Pennsylvania who have never heard of the massasauga or, as sometimes called, the swamp rattlesnake. While in prime massasauga range, Butler County, I had occasion to see several of these, which reach about two feet in length and are gray in color, as opposed to the timber rattler which attains a length of about five feet and is either yellow or black in color. Sixteen of these were killed in one small field while a farmer was plowing, the reason for this being that they stay in holes in the ground and when furrows are turned over they're exposed. I believe the tractor seat would be the safest place to be in a situation such as this.—Trainee J. P. Shook.



Hide 'n' Seek

ROSS LEFFLER SCHOOL—While on my land management assignment for two weeks, Bill Fulmer, Land Manager, provided a little humor to our everyday routine. He was chasing a mouse across the barn floor, when it suddenly disappeared. After searching for several minutes, we gave up the chase. Five minutes later Mr. Fulmer began jumping around and out came the mouse from his pant leg. This little episode taught me never to misjudge a mouse.—Trainee F. D. King.



Cowboy Clyde

VENANGO COUNTY—On August 13, I tried my hand at lassoing a wild deer. A large spotted fawn had wandered into Franklin. It had been reported at three locations. When I arrived at the right place, it was behind a house between a garage and a fence. I did not dare get too close as it had about 10 feet of space to escape and I was alone. It would run from one side to another as I tried to lasso it. After several attempts, I managed to throw the rope over its neck and pull it down. It then started to blat very loudly. Several people arrived. One helped me tie its legs together. I then loaded it in the cab of my truck and took it to an open area. It took off for the woods in a hurry when the ropes were removed.—District Game Protector C. Decker, Franklin.

Rare Sight

ROSS LEFFLER SCHOOL—While working with Land Manager Don Watson in Lycoming and Union Counties, I had the rare pleasure of sighting a bird that very few citizens of our Commonwealth have ever had the opportunity of seeing—a bald eagle. I sighted it in Lycoming County on State Game Lands 75 near the Pine Creek area. It was in flight and I couldn't get a picture of it, but I understand it had been sighted before in this area.—Trainee A. N. Pedder.

Rox Sox Fox

HUNTINGDON COUNTY—As one of our Farm Game Cooperators, Dick McMahon, was returning to his farm, a large red fox ran across the road in front of his truck. Dick noticed that the fox had trouble getting up the steep bank, and stopped the truck and got out. Mr. Fox just lay still along the edge of the road, and Dick grabbed a rock. He thought the fox was about to run, so he threw the rock where he guessed Mr. Fox would be if he ran, and sure enough, the smart (?) old fox ran right into the rock and knocked himself out. Dick threw the fox into the rear of the truck, and just as he got home, it started to come around, but his shepherd dog took care of things from there.—District Game Protector G. W. Wendt, Petersburg.



Buddies

A resident of Linesville was cleaning out his garage and decided to clean up his goose decoys. He placed them on his lawn, washed them with a hose and left them there to dry. His daughter thought they looked attractive and asked that they be left on the lawn awhile. They must have looked quite real to a flight of geese leaving the refuge, as the next morning the owner found a flock of natural birds had joined the decoys on the tender fresh-cut lawn.—CIA R. D. Parlamar, Franklin.

The Hard Way

VENANGO COUNTY — Upon receiving a skunk damage complaint, Deputy McGinnis gave the man a box trap to trap the skunk. After a short time the man caught the skunk and figured a good way to dispose of it would be to drown it in an old rain barrel. As the man held the trap with Mr. Skunk under the water, Mr. Skunk had different ideas. The next thing the man knew, the skunk came swimming to the top. The only thing our friend could do was to grab the skunk and hold him under. **WHEW!** — District Game Protector L. Yocum, Oil City.

Glad They Like Us

ELK COUNTY — Recently I noticed more tent campers and pickup campers throughout the entire district than ever before. Most were from out of state, primarily Ohio. Conversations with these people indicate they really enjoy what we have to offer in this portion of Pennsylvania. As well as its natural beauty and wildlife, they also appreciate the opportunity to get away from the pressures of heavily populated areas. I wonder how many of our own residents equally appreciate what good old Pennsylvania has to offer? — District Game Protector L. E. Milford, Portland Mills.

Shohola

ROSS LEFFLER SCHOOL — I have had several opportunities to visit the Shohola Waterfowl Area, in Pike County, which is presently near completion. I certainly think this will be one of the finest multi-purpose outdoor recreation areas in this part of the state. I am sure it will not only offer fine duck and goose hunting, but will also afford many pleasurable hours of recreation to the fisherman, the trapper, the big game hunter, the hiker, and to those who just want to observe Mother Nature and her wonders. — Trainee J. P. Filkosky.

Just a Friendly Fellow

PERRY COUNTY — Art Mitchell of Newport has been seeing an albino woodchuck in his fields. The chuck is pure white with pink eyes. It is of average size, but seems to lack the fight of an average groundhog. The day I saw the chuck, Mr. Mitchell casually picked it up and petted it. — District Game Protector B. D. Jones, Loysville.



That's How It Goes

CLEARFIELD COUNTY — While on duty at the Clearfield County Fair, I encountered an elderly hunter with a tale of a big buck he missed. He kept gesturing toward one of the mounted deer heads on display at the Outdoor Exhibit. He went on to say how he had spotted a similar "monster" the first day of the season on his land near Punxsutawney. He had waited for the buck to come close, but stated that "the ol' eyes ain't what they used to be," and he had missed the deer as it passed so close he could've jumped on its back. All the while, he was gesturing toward the mounted specimen across the aisle, indicating that the one he'd seen had been identical. But the mounted trophy was a *mule* deer! I had to agree with part of his story — "the ol' eyes ain't what they used to be." — District Game Protector J. R. Furlong, Ramey.

Blue Ribbons for Tussey

CENTRE COUNTY—The Tussey Mountain 4-H Wildlife Club rounded off the year at the Centre County Grange Fair in great style, winning blue ribbons for their wildlife exhibit and beautiful float. This group of youngsters has put much time and effort into various wildlife projects, leaving no doubt in my mind as to the type of future sportsmen they will be. A special pat on the back to Mr. and Mrs. Clarence Peters, Herby Rudy and Jim Miller, all 4-H leaders and farmers, for "making time" to direct this hard-working group.—District Game Protector J. L. Wiker, Pennsylvania Furnace.



When It Rains . . .

ROSS LEFFLER SCHOOL—I recently had the unfortunate experience of cutting into a yellow jacket nest while mowing with a hand scythe. That was bad enough, but the crowning touch came last weekend while driving back to the Training School from Brockway. A bumblebee flew up my shirt sleeve and stung me three times before I got the car stopped and disposed of him. Needless to say, this was not my month, when you consider I have not been stung for the last eight years.—Trainee L. E. Everett.

Glenn L. Bowers, Executive Director
Pennsylvania Game Commission
Dear Mr. Bowers:

Wish to take this opportunity to thank you for the kind invitation to be one of the party which inspected the dam on the Shohola Creek. I can't tell you how satisfying it was to look out over the impoundment of the waters and the big stretch of Forest Land surrounding the area, and realize that here was the consummation of a dream of years ago—that here we may have a waterfowl area for our eastern sportsmen, as well as a place where one can ponder the works of nature. In addition to being able to mix with my former colleagues and enjoy their company, may I say that in my thirty-four years of service I can, after surveying this big expanse of land and water, feel that I have left one small footprint "in the sands of time."

Sincerely,
John H. Lohmann
Retired District Game Protector
Milford, Pa.

Going Home?

ROSS LEFFLER SCHOOL—While returning to school with fellow officer L. L. Everett on the evening of June 23, we came across a road-killed bear about seven miles east of Penfield on Route 80 in Clearfield County. The bear, an adult sow of about 180 pounds, was ear tagged No. 3-4 by the Pennsylvania State University Wildlife Research Center. A check revealed that the bear had been released near Wycoff Run on September 15, 1967 and was killed approximately 23 miles from its point of release and one-half mile from the place where it was captured.—Trainee J. M. Kazakavage

Fox Squirrels

CLARION COUNTY—Clarion County isn't noted for its fox squirrel but I have observed quite a few this year in some of the small woodlots.—District Game Protector J. Lavery Clarion.



CONSERVATION NEWS



Stop at a Deer Check Station

A GAIN THIS YEAR, four deer checking stations will be in operation in Pennsylvania, according to Harvey A. Roberts, Chief of Division of Research, Pennsylvania Game Commission.

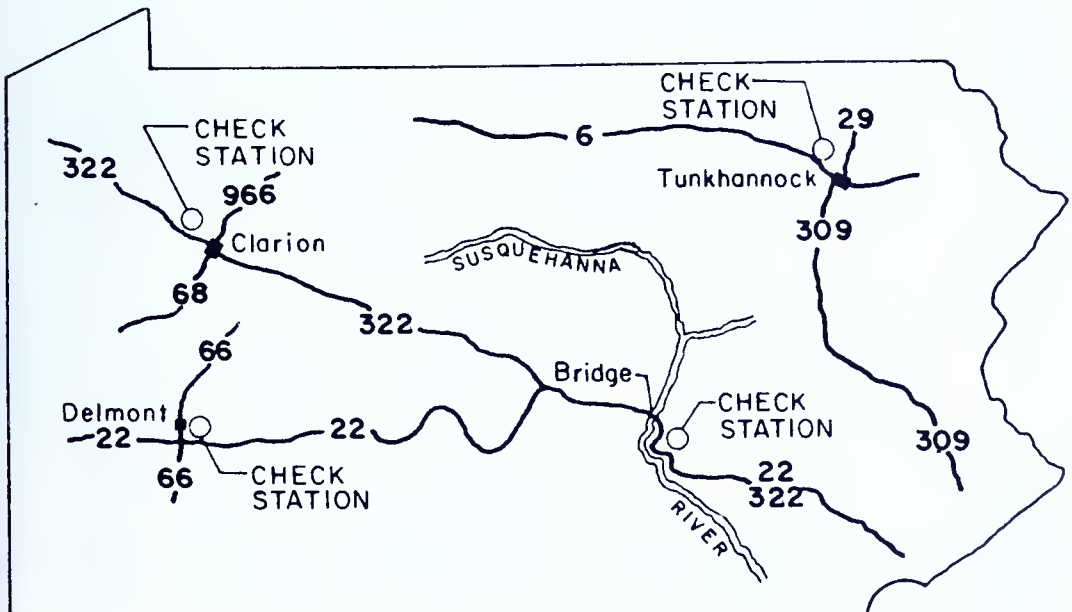
Information collected at these stations will be valuable in improving deer hunting in years to come, and it is hoped that every successful buck hunter who can possibly stop at one of these check points will do so. To wildlife biologists, data assembled through a physical examination of these deer reveals many facts about the condition of the deer herd in various parts of the state, as well as the condition of the range on which it was taken, etc. This can be vitally important in helping the Game Commission set seasons and bag limits to provide the optimum amount of sport for

the maximum number of our hunters.

Successful hunters who stop at a check station will see how the age of their trophy is determined by an examination of its teeth, and certain antler measurements will be taken, as well as the deer's weight.

The four stations will be operated at least the first three days of the antlered deer season, beginning December 2.

All stations will be well marked with signs. The northeast station is west of Tunkhannock on Route 6. The central station is 13 miles north of Harrisburg on Routes 22 and 322 just off the east end of the Clarks Ferry Bridge. The southwest station is near Delmont, on Route 22 just east of its intersection with Route 66. The northwest station is just west of Clarion on Route 322.





Mrs. Zelda Ross

Circulation Director of GAME NEWS Retires

Mrs. Zelda Ross, of Harrisburg, circulation director for PENNSYLVANIA GAME NEWS, has retired after nearly 36 years of service with the Pennsylvania Game Commission.

GAME NEWS, the official monthly publication of the Game Commission, is the largest circulation magazine published by any state conservation agency.

Mrs. Ross spent twelve years with the Law Enforcement Division of the Commission before joining the GAME NEWS staff. When she joined the magazine its circulation was about 20,000. Today the circulation is about 181,000.

The position of circulation director has been filled by John Eckhart.

HARVEY ROBERTS, RESEARCH DIVISION CHIEF, left, explains deer management program to teachers attending conservation workshop at West Chester State College. Such information helps teachers conduct highly useful classes at their own schools.



Bear Hunters— Attention!

THE PENNSYLVANIA GAME COMMISSION will measure bear skulls during the spring of 1969. This program will be conducted in conjunction with the trophy deer measuring program. Both deer and bear trophies will be measured and recorded according to the Boone and Crockett system.

Save Bear Skull

All hunters who take a bear in Pennsylvania are urged to have their taxidermist save the skull in order that it can be measured. Although most taxidermists use artificial skulls and cast teeth when preparing a bear rug or head mount, some use the original skull. In such cases, it is normal procedure to saw the rear portion off the skull. This makes it impossible to measure the skull under Boone and Crockett rules, which specify that cut skulls may not be scored. A trophy's score is determined by adding the length and width of the skull, measured in inches.

It is felt that each successful hunter will be interested in knowing what his trophy measures and how it compares with all others. This program will provide these answers.

Full Data to Be Kept

The latest edition of *Records of North American Big Game* (1964) lists a skull measuring 21 5/16 inches as the Number 1 black bear. Only 164 bears score 19 or over. It is felt that several bears taken each year in Pennsylvania will score above 19. If you collect such a trophy, make certain it is measured in this program. But even if your bear does not approach the record class, have it scored. Full data on all skulls measured will be maintained at Game Commission headquarters.

Dates and locations of scoring sessions will be announced.



Photo by Roy Trexler

HARVEY GRAYBILL, Camp Hill, with trophy he won for topping turkey callers from eleven counties at Franklin County Fair. **C. L. Lesh**, Ickesburg, took third place; **E. J. Leap**, Hyndman, was second; and **B. J. Garland**, McConnellsburg, was fourth. There were over 350 spectators.

GAME NEWS

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The Pennsylvania Game Commission's . . .

Financial Report for the Fiscal Year

July 1, 1967, to June 30, 1968

By John M. Smith, Comptroller



THE RESULTS of operations of the Pennsylvania Game Commission for the fiscal year ended June 30, 1968, are presented for your information.

There are "earmarked funds" in the Game Fund as provided by the Game Law.

No less than \$1.25 from each resident hunter's license fee shall be spent for improving and maintaining natural wildlife habitat on land which is available for public hunting.

The sum of \$1 from the sale of each resident and nonresident antlerless deer license shall be used for development and maintenance of deer food and cover on State Game Lands.

Cash Receipts for the Fiscal Year
\$10,060,611

21% Increase Over Prior Fiscal Year

The Project 70 Fund, a \$5,000,000 Land Acquisition Project expiring at December 31, 1970, shows approximately 12,000 acres of land acquired at a cost of \$2,621,567.38 as of June 30, 1968.

Revenue Increases in Sales of Hunters' Licenses Over Prior Fiscal Year

Resident	7%
Nonresident	15%
Archery	19%

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditures from the Game Fund. Under the provisions of Article IV, Section 402 of the Commonwealth's Fiscal Code, the Auditor General is required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. Other controls imposed on State Departments are deemed adequate to control all financial transactions and budget matters.

\$881 Daily Average Interest Received on Securities and Bank Deposits During the Fiscal Year

The formal audit of the accounts of the Game Commission for the fiscal year ended June 30, 1968, has not been completed but the accounts are in good order and no problems are anticipated.

SCHEDULE I, PART I

PENNSYLVANIA GAME COMMISSION STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES FISCAL YEAR JULY 1, 1967, TO JUNE 30, 1968

REVENUE

Cash in State Treasury to Credit of "Game Fund" on July 1, 1967		\$ 6,370,226.75
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1967		NONE
Net Amount Available for Expenditures as of July 1, 1967		\$ 6,370,226.75
Receipts July 1, 1967, to June 30, 1968		
Resident Hunters' Licenses	\$4,721,731.52	
Nonresident Hunters' Licenses	1,811,305.25	
Antlerless Deer Licenses	445,482.70	
Archery Licenses	220,954.00	
Nonresident Trapping Licenses	200.45	
Special 3-Day Nonresident Regulated Shooting Grounds Licenses	6,973.05	
Special Game Permits	32,737.00	
Game Law Fines	232,143.00	
Interest on Deposits	40,162.53	
Interest on Securities	276,919.74	
Sale of Skins and Guns	5,514.14	
Sale of Unserviceable Property (Through Property and Supplies)	539.50	
Rental of State Property	53,861.03	
Sale of Wood Products	116,469.34	
Federal Aid for Wildlife Restoration and Recreation	1,503,239.60	
Sale of Publications	250,337.05	
Ground Rentals and Royalties from Gas Wells	45,811.37	
Miscellaneous	296,229.69	
Total Receipts from All Sources		10,060,610.96
Total Funds Available During Fiscal Year 1967-1968		\$16,430,837.71

SCHEDULE I, PART II

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive Accounting Administration	Information and Education	Propagation	Research	Law Enforcement	Training School	Land Management	Totals
Salaries	\$229,761.57	\$244,945.76	\$209,477.76	\$105,234.50	\$ 931,104.38	\$ 48,643.06	\$ 536,843.70	\$2,306,010.73
Wages	12,014.89	14,046.20	265,147.14	1,055.15	224,003.92	11,501.14	1,300,765.65	1,828,534.09
Professional and Special Services	53,647.40	48,111.75		3,649.80	7,985.30		35,976.40	149,370.65
Printing	27,304.75	210,665.47	78.26	250.59	16,440.87		17,607.66	272,347.60
Advertising	13,940.73				69.57		3,641.22	17,651.52
Postage and Freight	37,884.22	25,920.77	612.38	390.98	5,580.20	81.00	5,957.15	76,426.70
Communications	4,622.07	3,325.43	3,551.36	2,338.66	28,875.82	325.13	15,322.23	58,322.23
Travel	10,889.00	44,654.63	22,189.73	21,739.09	273,583.13	2,759.46	116,444.30	492,259.34
Utilities and Fuel		1,057.55	11,803.66	3.75	10,702.79	1,595.23	10,807.94	35,970.92
Memberships, Dues and Subscriptions	1,707.82	60.66	99.83	9.00	57.40	71.41	55.90	2,062.02
Insurance, Surety and Fidelity Bonds	3,056.91	2,545.79	4,500.81	794.45	13,999.66	251.59	17,815.89	43,045.10
Motorized Equipment, Supplies and Repairs	1,950.22	4,470.44	16,593.46	4.00	26,510.15	1,195.98	133,996.03	183,271.78
Contracted Maintenance and Repairs	3,329.86	2,724.95	16,154.74	89.29	52,425.42	16,158.15	76,652.54	167,534.95
Rent of Real Estate	1,251.51	484.20	244.00		1,115.00		2,813.25	5,907.96
Rent of Equipment	15,264.16	1,112.06	4,869.50	3,619.60	6,145.25	64.00	119,366.54	150,441.11
Materials and Supplies	17,219.72	35,891.43	201,732.30	5,156.63	27,484.93	8,241.03	230,993.84	526,719.88
Wearing Apparel					32,909.35			32,909.35
Motor Vehicles and Farm Equipment	14,284.12	8,385.45	25,518.10	43.59	60,051.81	4,993.45	371,215.93	484,448.86
Furniture and Fixtures	2,212.30	1,155.14	284.51	53.50	3,415.05	209.95	5,411.01	12,731.55
Purchase of Game								113,751.60
Land Acquisitions								539,042.85
Buildings and Structures		6,043.09	5,603.75		23,172.66		539,042.85	643,294.23
Nonstructural Improvements		47.97	23.99		319.86		407.83	678,113.73
Grants and Payments to Individuals					9,943.34			9,943.34
Grants to Institutions	3,000.00	8,000.00		22,060.00				33,060.00
Payments in Lieu of Taxes—Game Lands			649.60				204,697.07	205,346.67
Refunds	606.93							606.93
Total Expenditures by Game Commission	\$453,948.18	\$663,648.74	\$902,912.98	\$166,492.58	\$1,755,895.86	\$ 96,090.58	\$4,338,366.44	\$8,377,355.36

Plus: Expenditures by Other State Departments from Game Fund:

Department of Revenue—Printing Hunting Licenses, Tags, and Miscellaneous Forms (°)	\$ 127,894.53
Department of State—Game Commission's Contribution to Employees' Retirement System (°)	258,075.00
Department of Labor and Industry—Commission's Share of Employees' Social Security (°)	171,296.00
Department of Property and Supplies—Commission's Share of Medical-Hospital Payments (°)	16,765.68
Treasury Department—Replacement of Escheated Checks (°)	97.05
Department of Forests and Waters—Commission Payment in Lieu of Taxes Under Project 70	6,303.64

TOTAL EXPENDITURES

\$8,957,787.26

Cash Balance in Treasury to Credit of Game Fund at June 30, 1968 (Includes U. S. Treasury Notes in the Amount of \$6,116,128.86) -----

\$7,473,050.45 (°°)

(°) These items are paid from the "Game Fund" upon requisitions drawn by other state departments and are included to present a complete picture of "Game Fund" expenditures.

(°°) The stated balance does not include a \$50 Advancement Account drawn on the "Game Fund" by the Department of Revenue.

SCHEDULE II

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JUNE 30, 1968

Cash	\$1,356,921.59
Investments—U. S. Government Short-Term Securities	6,116,128.86
Total Cash and Investments	\$7,473,050.45
Less: Liabilities and Working Capital:	
Encumbrances—Game Commission	\$1,461,045.69
Encumbrances—Other State Departments	6,514.28
Reserve for Working Capital	2,500,000.00
Reserve for Fire Loss	300,000.00
	4,267,559.97
Net Balance Available for Expenditures During Fiscal Year 1968-69	\$3,205,490.48

EARMARKED FUNDS

RECEIPTS AND EXPENDITURES

ACT NO. 632, 1955

\$1.00 FUND

<i>License Year</i>	<i>Antlerless Deer Licenses Sold</i>	<i>Minimum to be Expended</i>	<i>Expenditures</i>	<i>Expended Fiscal Year Ended</i>	<i>Over (+) or Under (-) Minimum</i>
1957	334,683	\$334,683.00	\$104,218.85	1958	\$230,464.15—
1958	349,054	349,054.00	306,605.18	1959	42,448.82—
1959	369,409	369,409.00	370,647.80	1960	1,238.80+
1960	229,535	229,535.00	425,895.55	1961	196,360.55+
1961	210,840	210,840.00	361,196.19	1962	150,356.19+
1962	201,431	201,431.00	316,411.47	1963	114,980.47+
1963	204,068	204,068.00	305,583.16	1964	101,515.16+
1964	274,799	274,799.00	353,426.70	1965	78,627.70+
1965	261,283	261,283.00	311,111.10	1966	49,828.10+
1966	376,598	376,598.00	316,495.79	1967	60,102.21—
1967	444,913	444,913.00	615,295.16	1968	170,382.16+

RECEIPTS AND EXPENDITURES

ACT NO. 271, 1949

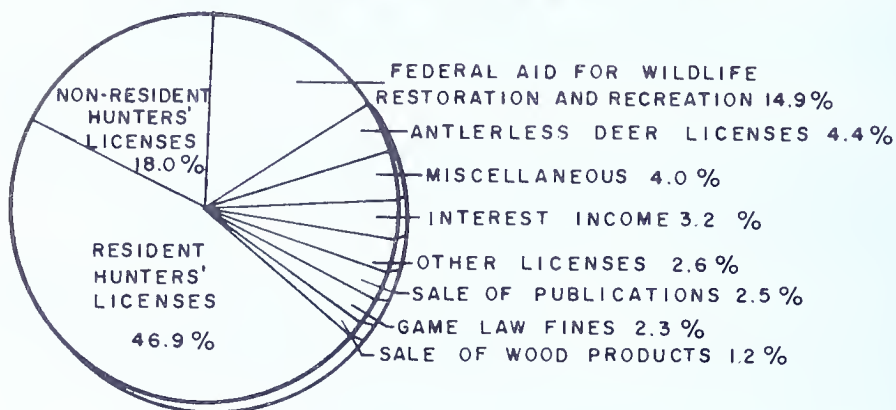
\$1.25 FUND

<i>License Year</i>	<i>Resident Licenses Sold</i>	<i>Minimum to be Expended</i>	<i>Expenditures</i>	<i>Expended Fiscal Year Ended</i>	<i>Over (+) or Under (-) Minimum</i>
1949	810,059	\$1,012,573.75	\$1,012,465.96 (A)	1950	\$ 107.79—
1950	801,948	1,002,435.00	1,266,856.18	1951	264,421.18+
1951	810,349	1,012,936.25	1,095,938.26	1952	83,002.01+
1952	830,147	1,037,683.75	1,163,287.09	1953	125,603.34+
1953	859,783	1,074,728.75	1,247,584.35	1954	172,855.60+
1954	869,286	1,086,607.50	1,215,543.03	1955	128,935.53+
1955	898,542	1,123,177.50	1,150,865.08	1956	27,687.58+
1956	902,540	1,128,175.00	1,280,927.58	1957	152,752.58+
1957	929,990	1,162,487.50	1,312,154.02	1958	149,666.52+
1958	943,340	1,179,175.00	1,261,098.24	1959	81,923.24+
1959	943,866	1,179,832.50	1,308,305.57	1960	128,473.07+
1960	949,365	1,186,706.25	1,894,854.64	1961	708,148.39+
1961	933,346	1,166,682.50	1,856,635.22	1962	689,952.72+
1962	926,976	1,158,720.00	1,599,871.34	1963	441,151.34+
1963	820,800	1,026,000.00	1,480,167.64	1964	454,167.64+
1964	868,972	1,086,215.00	1,630,906.74	1965	544,691.74+
1965	899,301	1,124,126.25	1,257,151.30	1966	133,025.05+
1966	931,239	1,164,048.75	1,677,374.98	1967	513,326.23+
1967	980,000 (B)	1,225,000.00	1,775,244.76	1968	550,244.76+

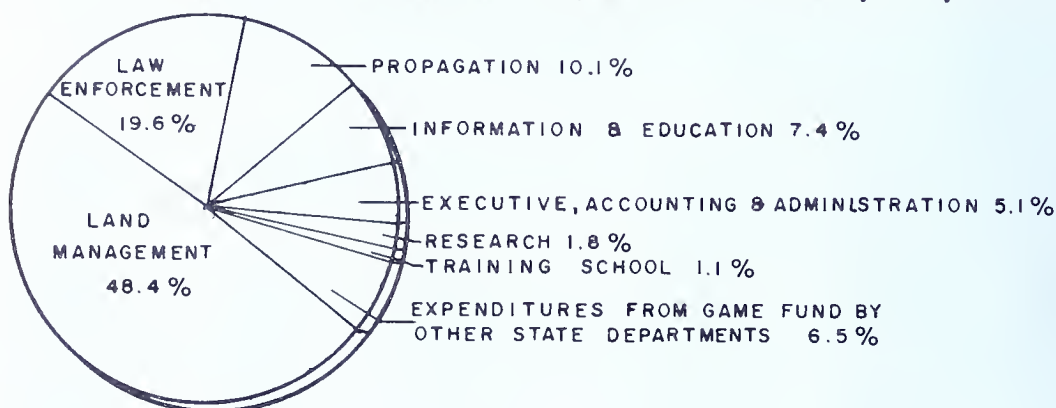
(A) Expenditures from September 1, 1949 (Effective date of Act), to May 31, 1950.

(B) Estimated License Sales.

Game Commission Revenue \$10,060,610.96



Game Commission Expenditures \$8,957,787.26



THE
FIRST PURCHASE
OF
STATE GAME LANDS
BY THE
PENNSYLVANIA GAME COMMISSION
WAS THIS
TRACT OF 6.288 ACRES
ACQUIRED ON JUNE 2, 1920
UNDER POWERS GRANTED BY AN ACT
OF THE GENERAL ASSEMBLY OF 1910
AUTHORIZING THE PURCHASE OF
GAME LANDS FROM THE HOLDERS OF HUNTING
LICENSES WHOSE LANDS WERE FIRST
ACQUIRED FOR IN 1910
THIS TRACT WAS PURCHASED
IN 1920 BY SPENCER HARRIS OF
JOHN MACFARLANE PHILLIPS
MEMBER OF THE COMMISSION 1910-1920
IN RECOGNITION OF HIS OUTSTANDING
SERVICE TO THE STATE
A BRONZE PLATE OF
HONOR HUNTING CLUBS
AND GAME TRACTS



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



4-H CLUB LEADER Joye Brown, State College, receives **Quick Skill** instruction from **DGP** George Miller before advancing to flying targets.

Quick Skill Shooting

QUICK SKILL, that's the name of the game directed by Robert D. Parlaman, CIA, Northwest Division of the Pennsylvania Game Commission.

"You say you're not a shooter . . . can't hit the target? Tell you what I'm gonna do," says Bob, rattling on like a sideshow barker. And before you know it, to the amazement of novice shooters and veterans alike, Bob has soon imparted a knowledge of specialized gun handling that most people hadn't dreamed of earlier. Totally inexperienced persons in a few minutes are hitting small flying discs—yes, even quarters which come from Mr. Parlaman's pocket. And aspirin tablets can be hit with a little practice.

And this is not done with a shot pattern, but with one "BB" from a Daisy air rifle having no sights! This gun was primarily intended to teach accurate, fast shooting to combat personnel; it has, to say the least, created a new interest in shooting for all hunters.

Such accomplishments create confidence in the system which stresses pointing, rather than deliberate aiming for hitting flying targets.

"Fun" scarcely describes the feeling, the satisfaction of accomplishment, that shooters get from hitting successive flying targets. A possessor of an air rifle when I was a youngster, and also a shooter of the Daisy target

rifles which we use in hunter safety and shooting, I'm convinced this new method of shooting is of value.

Quick Skill is quite popular everywhere it's tried. It was demonstrated at the second session of Junior Conservation Camp, attended by representatives of the Northwest Division of Pennsylvania's Federation of Sportsmen's Clubs. A line of campers quickly formed for Bob's instructions. He tossed aluminum discs of different sizes into the air until everyone—yes, everyone—had hit at least one, something many believed only expert

Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—9027

Students—157,847

shooters could do after many hours of practice. During this program, incidentally, everyone wore safety goggles to prevent any possible injury to eyes.

While developed by the military and Daisy for relatively close-in, moving target shooting, this system has proven to be a real skill builder.

Even if you never get beyond the aspirin busting state, you will have satisfaction for the rest of your life, knowing you can shoot quickly and accurately.

This is the same shooting skill being used at Army bases throughout America and overseas to teach our soldiers the kind of split-second marksmanship they must master to win and survive in the Vietnam jungles. Thanks to this training, the soldier now possesses the skill and confidence to come out on top when his adversary appears.

"Stand Up and Be Counted"

WITH SO MUCH controversy concerning proposed anti-gun legislation and the National Rifle Association's stand on the issue, it has been quite interesting to observe Pennsylvania sportsmen's reaction to proposed restrictions on ownership of sporting arms.

Reports from all districts in this Commonwealth have indicated the sportsman's willingness and desire to "stand up and be counted."

Sporting arms owners have made their feelings known, both verbally and in print. In many areas, sportsmen, independently and in cooperation with the Pennsylvania Federation of Sportsmen, have had large-scale meetings to express their feelings on this restrictive legislation. Invited representatives from the Pennsylvania Game Commission served on many of the discussion panels.

The sportsmen of Pennsylvania have indicated in many ways their gratitude to the NRA for its support and

assistance in defending their interests.

One reported incident concerning increased NRA support involves the Deputy Game Protectors in Allegheny County.

At a recent deputy meeting, it was indicated that only nine of the 18 deputies were current NRA members. To show their appreciation, and as a gesture of support against unfair gun legislation, the remaining nine deputies enthusiastically joined the NRA.

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including Zip Code, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.

SHOOT FOR SAFETY

By Keith C. Schuyler

Photos by the Author



WHEN ASCENDING or descending a tree, use of spare bowstring or cord to raise and lower equipment can prevent serious injury.

ON AN out-of-state hunting trip during August, we had 17 hunters in our party one day. All four Pennsylvanians were carrying their arrows in covered quivers, but only one of the other archers had his arrowheads protected. Fortunately, no mishaps occurred, but the difference in attitude between these hunters from different states does point up one result of the Pennsylvania Game Commission's constant endeavor to improve our hunting safety record.

The record is a good one. Last year but 19 arrow-caused injuries were reported among 110,051 hunters. This is excellent, but we must constantly try to make it even better. The great in-

crease in archers is certain to attract some less informed individuals who either do not recognize or ignore the potential danger that an arrowhead presents. The program, effective September 1, 1969, which will require that any person under 16 must have authenticated safety training unless he has previously held a hunting license, will further improve the already impressive statistics in the state. However, a continuing awareness by every hunter, regardless of age, is necessary



POSED PHOTO shows common cause of mishap—hunters with nocked arrows walking too near each other. If front man should stop suddenly or rear man stumble, injury could result.

to cut down the number of mishaps.

Just what are your chances of being injured while bow hunting in Pennsylvania? Not much. Only 159 arrow-caused mishaps were reported during the past 10 years, 1958 through 1967. During the same period, 759,153 bow hunting licenses were sold. This means that the archers' injury rate is approximately one per 4774.

Your chances of being killed by an arrow are practically nil. Since the inception of the first special Pennsylvania archery season in 1951, we have had 897,688 licensed bowmen — and only one fatal injury.

Obviously, bow hunting is one of the safest sports in which we can engage. Nevertheless, this is no reason to let our guard down.

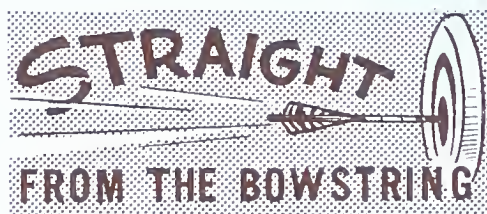
Mishaps show little pattern. The worst year was 1956, with 26 mishaps or one for each 2805 hunters. The best

year was 1963, when there was but one injury for each 8041 archers for a total of eight.

Last year, injuries totaled 19, one for each 5792 archers. That is the year in which we are most interested, since it more nearly approximates the experience and numbers of hunters of the regular 1968 season, just ended.

For the 19 recorded mishaps in 1967, there was no definite trend. Ages of hunters were from 15 to 56 with eight being in their teens. However, this can be expected since bow hunting is primarily a young man's game. Most of the injuries were in the leg, which is also to be expected. The majority of injuries were puncture wounds in which the point of the arrow merely penetrated the person's anatomy. Four were inflicted by others, 15 being self-inflicted. No one was shot in mistake for game, although one hunter was struck by a ricocheting arrow. Another archer walked into a nocked shaft. Most injuries were to the right leg, although three were in the left leg. Other injuries included two in the hand, one in the neck and one in the arm. In only one instance did an arrowhead have to be surgically removed.

One bow hunter was injured stepping over a wire fence, another when his bow caught in the laurel and he jerked the arrow into his leg. One was hurt climbing a tree, one while he was stringing his bow with the step-through method and his bow slipped. One fellow, trying to be on the safe side, injured himself while carrying an arrow in his hand. Another unhappy fellow slipped on a side hill and slid into his arrow. Still another received fragments of the arrow shaft in his hand when it shattered on be-



ing shot. An arrow injured one hunter when he accidentally kicked a bow which was lying on the ground and the arrow popped up to cut him badly on the back of the right leg. While replacing a broadhead on an arrow shaft, one hunter ran the head into his hand.

Most spectacular of the mishaps in 1967 was that involving Charles Van Der Miller, of Ferris Hills. Mr. Van Der Miller was camping in the Rickett's State Park area, Luzerne County. While carrying an arrow nocked on the string, a low-lying wire caught his foot. He believes he stepped on the wire with his right foot, and his left came up to catch under the strand. It threw him backwards, and he threw his bow arm up to catch himself. In so doing, he jammed the arrow into the left side of his neck.

The sharp razor head buried itself near the main vein in such a manner that he was unable to remove it personally. A truck driver took him about eight miles to the office of a Benton physician who sent him 20 miles farther to Bloomsburg Hospital. It was necessary to be extremely careful with the arrow during the time since additional serious injury could have occurred before it was removed.

Not Discouraged

Mr. Van Der Miller, when contacted about the accident, indicated that the mishap in no way discouraged him from hunting. In fact, although his narrow brush with death kept him out of the field during the remainder of the regular season, he had planned to hunt in the late season after Christmas. In a letter elicited by this column he said, "Like you, I am in full agreement in the elimination of barbed arrowheads." He also evinced strong feelings for a bow quiver which protects the heads, and he is of the opinion that an arrow should not be carried nocked or in either hand until game is sighted.

There have been but two fatalities



DON'T DO THIS! Using a razor-sharp broadhead to flick off an insect or scratch an itch can bring real problems.

in archery of which this writer is aware. One, of course, occurred in Pennsylvania in 1966. This, too, was a freak accident in which the hunter either dropped or lost his arrows from a tree stand. One stuck upright in the ground. He then either jumped or fell to the ground and imbedded the arrow in his thigh. He bled to death before reaching help and while driving his car for assistance.

Most tragic of all bow hunting mishaps involved a fatality in Virginia. An official copy of the report on this is in my files.

The accident occurred on October 16, 1963, in Patrick County, Virginia. The 21-year-old victim, while hunting with a friend, was mistaken for a deer. The two had become separated when his 19-year-old companion saw movement in the brush. Thinking it was a deer, he released an arrow which struck the victim in the neck, piercing his jugular vein and trachea and continuing into the carotid artery. Death occurred quickly from loss of blood.

Bow hunting in general has an excellent safety record, despite these isolated experiences. My intention here is to pinpoint the situations in which in-

juries are most apt to occur so that we can continue to shoot for a perfect record.

Nocked Arrow

Although it would appear that a nocked arrow is most dangerous, this represents a small percentage of the total problem. As the cardinal rule in gun hunting is never to point the muzzle at anything you do not wish to shoot, it is just as important that you do not permit an uncovered arrowhead to point at anyone at any time.

Climbing or descending from trees presents a definite hazard. This can be all but eliminated by using an extra bowstring, a bow stringer or a special length of twine to raise and lower your equipment. Just tie your equipment fast, carry the loose end with you up the tree and then lift the equipment to you. Descent can be made in the same manner by first lowering the equipment and depositing it out of the way in which you intend to descend.

Any wooden arrow which strikes a tree or goes through the brush should

be closely inspected for cracks or breaks. The power of a hunting bow can easily shatter a wooden shaft—which in turn can wreck the bow in hand. This is less likely to occur with glass or aluminum, but it is still a good practice to check any arrow which has been subjected to abuse. A sharp arrowhead is potentially dangerous no matter where it might be.

Extreme care should be used at any time when walking near other hunters. Special care should be used in stepping over logs or through fences or any other obstruction. Brush buttons, those handy gadgets which can be fastened to a bowstring to eliminate brush catching between the string and the limb, are a *must* for hunting. Nevertheless, they are not foolproof, and jerking a bow to free it from brush is a likely way to cause an injury. If your bow catches in the brush, take a backward step and release it to avoid the arrow hazard as well as damage to the bow or string.

Arrows, particularly hunting arrows will frequently ricochet because of the shape of the head. This immedi-

SHOOTING AT A HIGH ANGLE, either when hunting or during practice, should be done only under controlled conditions.



ately should be a caution against shooting anywhere in the proximity of another person. It should also be borne in mind that arrows will ricochet from crusted snow and travel for long distances beyond the point of impact if they do not penetrate the crust.

Arrows in Car

Getting in and out of a car with arrows always calls for caution. It is not unusual for a hunter to carry a spare arrow even though he has a bow quiver with all of his arrowheads properly protected. Loose arrows should never be allowed to lie on the seat or be placed up behind the seat. In the event of a sudden stop or an accident, they could become lethal projectiles.

Shooting arrows into the air, particularly hunting shafts, is risky under any but the most closely controlled conditions. The temptation to shoot at, say, a porcupine in a tree is great. Nevertheless, any such shooting can be hazardous, even though the area seems clear of hunters. Raccoon hunters should exercise extreme care when shooting at animals at night, even though there is little likelihood that anyone else is in the area.

It is not unusual to see someone chase away an insect with the point of an arrow, or scratch himself with the side or the edge of the head. This is an open invitation to an injury, since the itch is usually in a part of the anatomy which is difficult to reach by hand or to see. Jabbing with a broadhead may cause considerably more



GETTING IN OR OUT of a car with broadheads always calls for caution—especially when they're uncovered. Think what you're doing before you act.

damage than the insect ever would.

Although all the safety rules which pertain to the use of guns should be included for archers, there is another particularly pertinent to the sport of bow hunting: "Never place nor approach an exposed broadhead where it can cause an injury to yourself or another person." An earnest application of this rule can help keep our sights set on improving the already excellent safety record of archery in America.

(Special thanks to Don Dvoroznak and Bill Wise for their help in illustrating this column.)

Midwinter Snacks

Although the chipmunk hibernates like the woodchuck, it does not drift into a deep sleep. It snoozes lightly and awakens periodically to feed on food it has stored.



THERE ARE MANY WAYS to build a fire and this hunter used one of the easy ones, not even chopping his fuel to short length.

To Build a Fire

By Les Rountree

PORTABLE STOVES are just dandy for cooking, especially when it's raining, but for just looking, particularly at night, what would a camping trip be without a fire . . . a glowing, romantic, friendly wood fire?

Lack of good material with which to construct a campfire is my major complaint when discussing modern public campgrounds. Sure, it's tough to keep a supply of firewood on hand, but that's what separates the good campgrounds from the parking lots. It's not at all out of the question to charge a reasonable fee for a bundle of quality firewood. I'm not talking about chopped-up orange crates or trash scrap from a lumber yard, but real honest-to-goodness firewood. Something that will burn for awhile instead of going up in a frenzy of flame in a

matter of minutes. Sadly, some campgrounds have very positive rules about building campfires; that is, they don't allow it, period. Usually their reason is that it's just too dangerous. It certainly can be if someone wants to build a fire that licks at the treetop or wants to start it with gasoline or some other equally foolish stunt. These characters shouldn't be camping any way. At most campgrounds there are provisions for building fires. The fire area may take the form of a concrete fire-ring, a brick or stone fireplace, or perhaps just a semicircle of large river rocks. No matter what the facilities are, a few basic guidelines hold true about fire building.

The cardinal rule about fire starting (after a safe location has been selected) is "start small." Use plenty of



DEAD PINE BRANCHES make good tinder, are easily collected. Firewood of this size can be ignited easily, does not require any other "starter."

small twigs and shavings, and don't pile on anything much larger than a pencil until it's burning well. Give the little stuff a chance to flame up and then advance to about one-inch diameter wood. When the one-inch sticks are doing well, almost anything can be added slowly. With highly incendiary material such as dry birch bark, dead pine or hemlock twigs, a blazing fire can be put together in a hurry. Of course, at a public campground the most readily available starter will be crumpled-up newspaper. Hard-case frontiersmen may sneer at the thought of starting an outside fire with a sheet of paper, but let's face it, it is available and it works. Besides, paper is the same material that you'll probably use to start the fire in your fireplace back home, so you're at least familiar with it. Don't pile on too much newspaper. If the starting wood is dry a very small amount of paper will do the job. If it's going to be a ground level fire, squat on the upwind side and touch it off.

Much has been said and written about the physical arrangement of the starter wood for a fire. Many of the systems that are so neatly illustrated in the camping manuals work just fine—for awhile. Different kinds and sizes of wood have different burning times, and the best laid fires often go out. The best arrangement I've found is the tepee setup. Over top of your starter material, set your twigs or thinly split wood in tent fashion, leaning them against each other to form a peak at the top. You can pile a few larger sticks of wood on in this manner after it's burning well—and then the whole business usually falls in the center.

Four-Square or V-Stack

From then on, what you have built your fire in or on determines how the next piece of firewood will be placed. If it's on the ground, a stacking arrangement works fine. You can stack four-square, like a miniature log cabin, or make a V-stack or a three-sided stack. The advantage of this method is that it allows the flame enough air space to ignite the new logs easily. In

WIGWAM OR TEPEE made from dry branches, beginning with smallest and getting progressively larger, is an easy way to build a fire.



any kind of fireplace, at home or in the field, the most common mistake is to pack the fire too tightly. A fire has to "breathe." Ideally, the air should enter any heating fire at its base, course up through the flame and, in effect, be consumed as its oxygen combines with other elements to produce the blaze. For the air to do this well,



FOUR-SQUARE setup is also easy and popular with campers. With any arrangement, be sure to pile wood loosely so plenty of air can get through.

there has to be a suction or "draft" at the top of the fire. When this chain of events doesn't occur in your living room fireplace, the memory will linger on for some time. The worst that can happen outdoors is a dead fire. When placing wood on any kind of a fire, remember to allow plenty of air space between pieces. Two possible exceptions to this rule are when a stiff breeze prevails or if you're trying to prolong the fire during the night.

At most campgrounds the fire builder doesn't have much choice of wood type. You pay your money and take a bundle of whatever is available. When you do have the choice of buying what you want or cutting your own, some knowledge of wood is desirable. Small hemlock or pine twigs or branches up to one inch burn fast

and are good for starting fires if they are dry. If green they probably won't burn well. Large branch or log sections of evergreen trees don't do well on campfires unless they are very dry. Old pine knots will burn a long time if they are dry, but they are much different than the log itself.

(Never roast a hot dog or marshmallow over a pine or hemlock fire, incidentally. You won't be able to stand the taste. I've seen a number of fine steaks ruined because the camp chef thought that his delightfully smoking wood fire was just the ticket for grilling some T-bones. The smell of hemlock burning is not at all unpleasant, but the taste that it imparts to meat is a tragedy.)

White Birch Best

Perhaps I'm caught up by the beauty of the tree itself, but I believe that white birch is just about the best campfire wood that grows. Unfortunately, everyone who has a home fireplace thinks so, too. The demand has driven the price of white birch sky-high, even though it's seldom burned at home, but is generally used for decoration only.

White birch emits a sweet but not overpowering fragrance while burning and does an outstanding job of grilling steaks, hamburgers and hot dogs. It burns moderately but the coals don't last too long. Hard maple, beech and hickory are also excellent fire material and the first two are readily obtainable across Pennsylvania. Maple and beech burn slowly, but give off a lot of heat. I always figured that beech burned hotter than any other kind of wood fire. It's widely used as stove and fireplace wood all across the



northern half of the state. This is fortunate for the wood burner because beech has little commercial value and can be bought at low cost in cord lots. For aroma, beech should be burned with some other pungent wood. Apple, when you can get it, works fine for this purpose.

Maple is another long-lasting and hot-burning wood. Hard maple provides a good glowing bed of coals that is ideal for heat and cooking. Hickory does, too, but it's very difficult to find. Perhaps the most outstanding thing about hickory is the delightful aroma that it imparts to food. Who hasn't heard of hickory smoked bacon? Apple and some of the other fruit woods are great in that category, too, but obviously this kind of firewood is in short supply. You won't find many of these "exotic" woods available when you're on the road or out in the boondocks, but keep them in mind for your home fireplace or backyard barbecue pit. If you see a neighbor or nearby farmer about to cut down an old apple tree, put your bid in. The sweet rich smell of burning apple makes for a very enjoyable long winter evening.

Charcoal

Since charcoal is so popular for home and camp use these days, we should include it in any discussion of fires. A lot of people have grown to like the taste of charcoaled food. Just about as many don't like it. I've got a hunch that many of the non-likers don't really object to the charcoal taste so much as they do to the taste from that abominable liquid known as charcoal lighter or starter. Many kinds are on the market and practically all use the same petroleum distillate as a base. In my opinion, they all smell awful and taste worse.

I'll admit that a few squirts of this stuff make lighting your charcoal bed a snap. Trouble is, most people just won't wait long enough after ignition to start cooking. It takes at least an

hour for the aftereffects of the starter fluid to fade away. If you insist on using these preparations, start your fire early enough so the smelly residue has a chance to completely burn up.

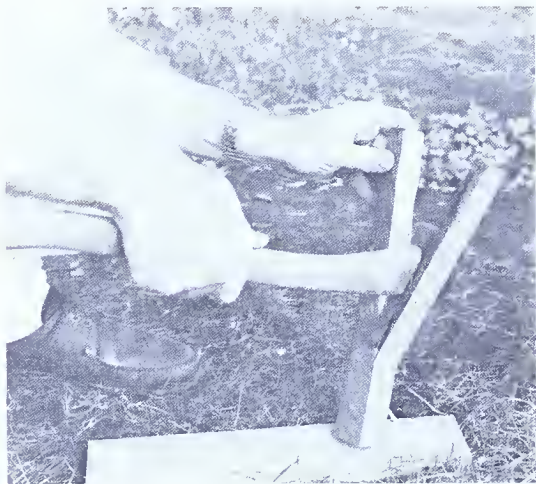
Wood Fire Starter

A far better way to kick off a charcoal fire is to build a small wood fire first, then add the charcoal to the bed of embers. It doesn't have to be a roaring blaze and it can easily be built in one of the round metal barbecue grills that frequent every backyard. Sure it's a little extra fussing, but the results will be well worth it.

At many campgrounds a situation encountered these days is the pile of poles and small limbs provided by the operator as "do-it-yourself" firewood. For the camper to take advantage of this situation he must have some kind of cutting tool. An ideal combination would be one of the small portable bow saws and a light pole ax. The bow saw is fast cutting, easy to handle and will take care of any poles up to about five inches in diameter. The miniature pole ax or Hudson's Bay

A SHAVE STICK—sort of a "wooden porcupine"—is easy to make and ignite. Several can soon get a good fire going.





LIGHTWEIGHT POLE AX is most useful cutting tool for general camping chores, can split kindling or quickly down good-size trees.

Model works fine for splitting kindling. A hatchet is OK, too, if you're used to handling one. I simply prefer the pole ax since its square end offers an auxiliary pounding head with a longer handle.

When the landscape is thoroughly wet, building a fire sometimes seems to be a hopeless task. Hemlock to the rescue again. The lower branchlets on the hemlock are nearly always dead . . . the shade has starved them. Even after the heaviest downpour they'll be dry and easy to crack off. A little coaxing with a piece of paper and they *will* burn.

If you can't find hemlock and don't have any paper, borrow a page from the *Boy Scout Handbook* and make some "shave sticks." Practically every camper or weekend woodsman knows about shave sticks, but very seldom

does anyone seem to use them. They work great for starting a fire at any time, but really become appreciated when the surroundings are well soaked. Any small, dry piece of wood can be used to make a shave stick. Use a knife on the tiny pieces and the ax on the larger ones, notching around and up the stick until you have made a wooden porcupine. With several of these stacked tepee fashion, you'll be able to start a fire with nothing else than a match. As with all fires, start small. The first shave stick lighted should be about pencil diameter. Make your cuts as thin as possible. If you haven't tried this before you'll be surprised at how well these sticks work.

Select Site Carefully

You old hands know this, but for the benefit of the first-timers . . . *select your fire site with care!* Don't build it too close to the tent. Burning down one's tent can be more than embarrassing. Don't laugh. This has happened far more frequently than it should. Stay away from areas that are strewn with dry leaves or dry grass. Don't build a large fire during a heavy wind — you're asking for trouble. In Pennsylvania, it's illegal to build a fire on State Forest or State Game Land except in certain specified areas. With our millions of forested acres it's easy to understand why. But at your campsite, in your backyard or in your living room fireplace, wood fires are great for cooking, warming and, perhaps best of all, for watching. One final reminder. When you're outside and it's time to walk away . . . make sure that fire is *out!*

Beats Phoning

A worker bee informs others as to the location of a honey cache by performing a dance consisting of a circle or figure eight with variations.

The Casual Kind

Many bald eagles have a tendency to vacation from nesting for periods of one or two years, making no attempt to raise offspring.



A BENCH REST AND SANDBAGS make sighting in easy. Good spotting scope saves walking to targets to see exact bullet placement.

Don't Be Caught Shorthanded . . .

Sight In Your Rifle Now!

By Don Lewis

Photos by Helen Lewis

“QUICK, BILLY, run to the house and get my 30-06—there’s a buck in the pasture field! And don’t forget the shells.”

“I’ll be back in a flash, Dad,” the young boy exclaimed excitedly. “I’d like to take a look at him first.”

“Scamper—and don’t let any grass grow under your feet. That buck doesn’t intend to rent that field,” warned the father as he motioned for the boy to get going.

A minute later, the young boy, completely out of breath, handed his father the rifle. Digging into a pocket, he produced a clip. “Mom couldn’t find any more shells,” he gasped. “The clip has four in it, so you better make them count.”

“I won’t need but one if that buck keeps standing in the middle of the field,” his father replied as he looked

out of the corner of a barn window. “I think I can get a wide open shot at him from the pig lot. Come on, let’s slip out the side door.”

The farmer and his son slid quietly along the side of the barn until they reached the corner. Peering around the barn, the father surveyed the situation and informed the son that the best place to shoot from was the gate in the pig lot fence. Crouched low, they eased to the gate. The father loaded the rifle and stuck it through an opening in the gate.

“This is just like having a special built rest,” he commented as he pushed the safety and aimed at the big buck. “One shot ought to do the trick.”

“Take lots of time, Dad,” cautioned the boy. “That’s a mighty big rack, and I want something to tell the other



HUNTERS GETTING ready for deer season find that rifle's point of impact has changed since last fall—a fact it's better to learn on a paper target than by missing a big buck!

kids about in school tomorrow.”

When the cross hair settled in the middle of the buck's shoulder, the farmer squeezed the trigger. The crack of the rifle only made the buck lift its head and poise in watchful stillness.

“You missed him, Dad,” moaned the youngster. “Whip another shot at him before he knows he's being shot at. It looked to me as if you shot to the right.”

“Impossible. I had the scope right on him.”

As the deer stood motionless, the farmer cut loose another well aimed shot. The deer, realizing that all was not as it should be, whirled and ran about 30 yards and stopped. The farmer poured in another rested shot, but it too missed. This was enough for the buck, and it raced across the open field while the farmer and his son just stood and watched.

“You could have shot again, Dad,” remarked the boy, after the father turned toward the house. “You might have hit it when it was running.”

“If I hit it running after missing it three times standing, I'd be ashamed

to admit it. Anyway, it would have been sheer luck.”

I could tell by their faces when they entered my shop on that cold December night that they were not the happiest hunters in Pennsylvania.

“We brought you some trouble,” spoke up the father after the boy had unzipped a gun case and pulled out a rifle. “I can't figure for the life of me what ails this rifle, but I had a little problem on a rather long shot to night.”

Billy's Gotta Learn

“He missed a standing buck three times from a rest,” cut in the youngster. “It was as nice a shot as you ever hope to get.”

“I'll explain it to him, Billy,” insisted the father. It was plain to see that the boy hadn't yet learned the art of how to alibi gracefully. For the next several minutes, the older man tactfully outlined what had happened.

“When was your rifle shot in last?” I asked.

“Well, I didn't get a deer last year and I think I had Andy Thompson take a shot or two the year before that. It still should be right on the button since I ain't had it out of the gun cabinet since last season.”

“A lot of things can happen over the period of a year,” I replied. “I'll take a few shots from my benchrest and see if I can spot what's wrong with it.”

When I checked the scope in my bore sighting collimator, I knew where he'd missed his deer; the bullet would be more than two feet to the right at 100 yards. Since the windage adjustment had been turned as far as it would go, I removed the scope. I found what I was looking for. When



ever had mounted the scope drilled the front holes off center. To compensate for this error, the two holes in the front base had been elongated sideways by filing. This allowed the base to be moved toward the center of the receiver to make up for the error in drilling. Sometime over the last year or two, the base had moved. I corrected the problem by drilling a new set of holes properly aligned, for the front base. I doubt if it will ever move again. It zeroed in perfectly.

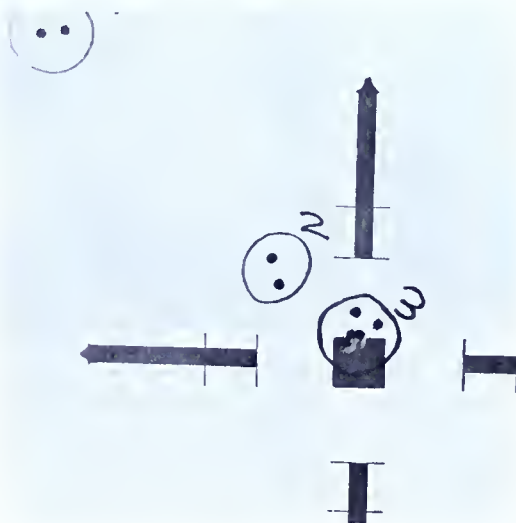
"I learned a valuable lesson tonight, Mr. Lewis," the owner of the rifle told me. "You can be sure I'll have my rifle checked before every season from now on. You know, I'm the kind of a fella who never takes chances. I always have a good spare tire, plenty of gas for my farm equipment, extra feed and hay for the cattle, but I certainly got caught shorthanded when I didn't sight my rifle in before the season."

Old Old Story

I get tired of hearing the old story about the rifle that so and so owned that never needed its sights touched. I also hear about the heavy duty Army sight that can't get out of adjustment, or the sniper scope that won't fail even if run over by a tank. This may sound impressive to a good many hunters, but a gunsmith knows better. A gunsmith knows there is no sight, regardless of its type, that cannot get out of adjustment. Every kind of an ill imaginable can plague your rifle's sights. After seeing literally hundreds of rifles pass over my benchrest down through the years, I'll stick to my theory that seven out of 10 rifles in the woods are not hitting where the shooters are aiming. I realize that a rifle that is off more than two feet is an exception, but a rifle that is off six inches at 100 yards is far from being sighted in. There's no logical reason why any hunter would want to carry a rifle that is not putting its bullets right on the target. If a rifle can keep all of its shots in a two-inch circle at 100 yards,

I wouldn't be satisfied until it was placing this group just above the cross hair intersection. It's impossible to allow for any sighting error when you see your game.

One of the most convincing examples of the "rifle that never needs its sights adjusted" happened in my shop a few years back. After sighting in a rifle for a man, he went to his car



CLOSEUP OF TARGET shows where successive groups went. Despite excellent accuracy, hunting results would have been disappointing if not zeroed in.

and brought back a very expensive outfit that belonged to his son. He told me emphatically how the rifle was always on dead center and that his son had made two one-shot kills on deer in the last two years. He had even bagged a fox at well over 200 yards. The man asked me if I would like to take a shot from such a fine shooting rifle (he didn't want it sighted in). I never turn down any chance to shoot, but, in this case, I was sorry I accepted. It turned out to be very embarrassing for the father. The rifle shot four inches high and nine inches to the left at 100 yards. I have no idea how the boy made two one-shot kills on deer or how he managed to hit a fox, but I know that if he does it again, it will be because his rifle is now properly shot in.



LATE CHUCK HUNT gives Helen Lewis a chance to check her rifle's point of impact at unknown ranges. Despite unorthodox position, she usually connects!

Those fellows who are still trying to convince themselves and their friends that scopes are the only sights that get out of adjustment should spend a week with me prior to the big game season. Rifles with every type of iron sight pass over my bench, and it's a rarity to find one that doesn't need some type of adjustment. In most cases, it's the front sight that needs attention. Leaning Old Betsy in the corner for long periods of time or thumping it against a rock in McKean County can deform or bend even the sturdiest front sight. The various types of rear sights have a host of problems that cause them to fail. For some reason, most hunters attempt to work on their own sights, and they use tools that vary from big files to heavy hammers. I find back sights that are beat and filed into almost unbelievable shapes. Actually, an open sight needs the same care and respect that a fine scope deserves. If a sight has to be filed or moved, it would be better for all concerned if your local gunsmith did the work.

Scopes are more delicate in adjustments, since the shooter can be so much more precise. It's impossible to move a bullet a half inch at a time with open sights at 100 yards, but it's no trick at all with a fine scope and a good rifle. But this doesn't mean that a scope is weaker than open sights. In fact it is usually not that the scope has moved that puts a rifle out of adjustment, but rather a bedding problem—the way the metal and wood fit together, particularly in the barrel channel.

Bedding is complex. Wood is porous, and those pores can absorb a lot of moisture, causing the stock to swell or warp, creating pressure points under the barrel and action. These must be removed in order to get the rifle functioning again. I might point out that the next time the drawer in your dresser sticks, or the front door of the house is hard to open due to swelling give a minute of thought to the wood in your rifle. Temperature and humidity have a great deal to do with the way a rifle shoots.

**The Game Law
Violator Is
Stealing From
You!!!**

One reason a pre-season sight in is important is because it gives the hunter an opportunity to get the feel of his rifle. Many hunters who do no summertime hunting have not handled their rifles since last deer season. They really don't know whether the rifle is sighted in or not. A couple of boxes of ammo will do the trick and furnish the much needed practice. I never could understand the procedure of carrying out all the other preparations in getting ready for a week of buck hunting and then heading for the big woods with a rifle that could be from six inches to a foot off. There's no point in finding out *after* you've missed a bear or deer that your rifle is not zeroed in.

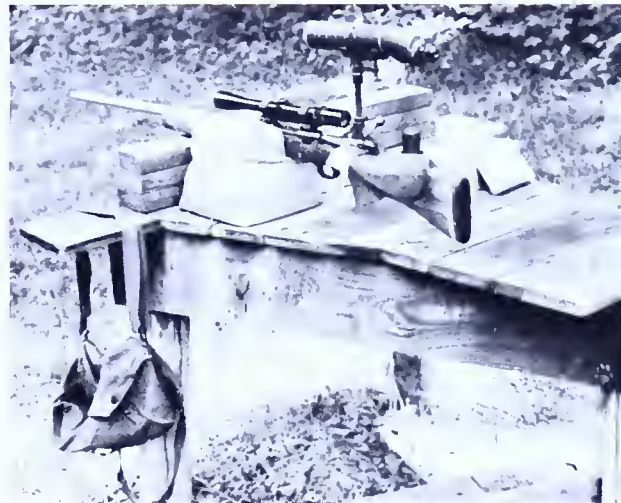
Thoroughly check out your rifle right now. Don't wait until the last minute to find out that your rifle has a problem. When you rush to your gunsmith with a 30-30 that won't feed its shells or a scope that doesn't adjust correctly, you'll undoubtedly find 10 to 15 other fellows with similar ailments sweating out the weary gunsmith. One man came to me at 11:30 one night to have his rifle sighted in. I didn't have floodlights and an automatic range in those days. We tied a flashlight to a tree, and while rain poured down in torrents, I tried to get the bullets somewhere near the bulls-eye. It was nearly one o'clock in the morning when the light gave out, but our efforts weren't in vain; he shot a dandy buck the next day.

Anyone who knows anything at all about sighting in a rifle will tell you that the job should be done by the owner. I agree in one respect, but

disagree in another. I specialize in sight ins, and I do believe that every shooter should check his rifle after it has been sighted in. But I can't say that every hunter is qualified to do the actual firing. The average hunter may be able to hold the rifle well enough, but there are those other things such as bedding, front sights that aren't mated to rear sights, and mounting problems that the average shooter never knew existed that will prevent him from getting his rifle on target. When I get some of these rifles, they have already had two or three boxes of ammo fired through them in a futile attempt to sight them in. Normally, these have a problem that the average hunter would not be able to fix if he did find it. Although my eyes and the way I hold the rifle may not be even similar to the rifle's owner, I find that it's no problem for the owner to make a few minor adjustments and get the rifle shooting exactly where he wants it after the problems have been taken care of.

Strange as it may seem, it's the little things that cause the most harm. I removed a scope from a Springfield that had just been drilled and tapped a week before. The gunsmith did not

HEAVY, LONG-RANGE rifle with Realist Auto-Range scope ready to be checked out. Such an outfit can be deadly on deer to a quarter mile.





IN THE END, of course, the proof of your pre-season shooting is shown by results from the hunting field. Here Don Lewis directs his son to a stand—and a buck!

drill the rear hole through the receiver ring, and for some strange reason he used one screw that was too long to tighten the base against the receiver. (That is, the end of the screw hit the bottom of the hole before its head held the mount base tight.) The owner fired nearly 40 rounds through it without any success. When I discovered the problem, I simply shortened the screw and solved the difficulty. It took just six shots to put the group exactly where the owner wanted it. This care-

less oversight cost more than 10 dollars in cartridges and repair to fix.

Two years ago, I had five Model 88 Winchesters come to my shop in a two-week period. Each had a Weaver 53 scope mount base installed backwards. In this position, the nut that locks the scope mount ring to the base interferes with the ejection of the empty case. Most of the time, the empty fell back into the action and caused the rifle to jam on the second shot. When the base is on properly, the front mount is well ahead of the opening in the side of the action and can't interfere with the case as it comes out. Luckily, the five owners discovered the mistake before the season began, but it disturbed me to think that some gunsmiths fail to check out their work.

I can't list all the reasons that cause sights to fail. I can only suggest that you get your rifle out now and make certain that it is in good operating condition, and that it's shooting to your satisfaction. Improvise a few simple hunting setups, fire a dozen or so rounds offhand, and cut loose with a few rounds of rapid fire. I suppose to some, this may look like a waste of time and ammunition, but I know from experience that the more you handle and shoot your rifle, the more adept you will become. If you're like the average hunter who comes to my shop, you need the practice. Don't be like our farmer friend. He was prepared for everything except the big buck who showed up in his pasture

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The right of the people of the United States to keep and bear arms is guaranteed not only by the Federal Constitution but also by the constitutions of 35 states, including Pennsylvania. Article I, Section 21 of the Constitution of the Commonwealth of Pennsylvania reads:

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COVER PHOTO BY BOB BELL

December in Pennsylvania—and upwards of three-quarters of a million hunters are haunting the whitetail woods. This is the month we all wait for—the month of the deer. Everyone goes, from the gray-bearded old-timer who's lost track of how many deer he's bagged to the beardless boy who's excitedly anticipating his first. Even normally desk-bound Game Commission personnel manage to get a few days afiel, as our cover proves. That's John Behel watching a deer crossing in Perry County—and his red jacket and fluorescent orange vest prove he takes seriously the advice he gives others as Hunter Safety Coordinator.

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Was It a Miss?

IT WAS a cold rainy morning, the first day of the Pennsylvania deer season. A wet, shivering hunter stood under a pine tree, wondering why he was there. Suddenly he knew, as a fine buck burst into the small clearing just a few yards away. At first it was a staring contest, with the buck winning and the hunter becoming more nervous by the second. Suddenly, the hunter raised his rifle to his shoulder and fired. The buck turned and poured on the coal in its attempt to escape. The hunter fired again and again, but the deer just seemed to go faster and faster.

Disgusted, the hunter muttered a few choice words and turned to trudge back toward his car, wondering what else could go wrong. The answer—plenty! His missed buck is not running now, but staggering. It makes it to a small ridge and falls, gets up to stumble down over the hill and then collapses. I found it at Oil Creek near Titusville, almost five months later.

Five months is a long time for a beautiful specimen to lie wasting away. This buck was a big 10-pointer, and when it was alive it probably weighed close to 150 pounds. It had been hit about a foot behind the left shoulder, up high. Obviously, it was not an instant kill, but I doubt that it could have run more than a few hundred yards. If the hunter had only followed this deer for just a little while, he would have had a fine trophy.

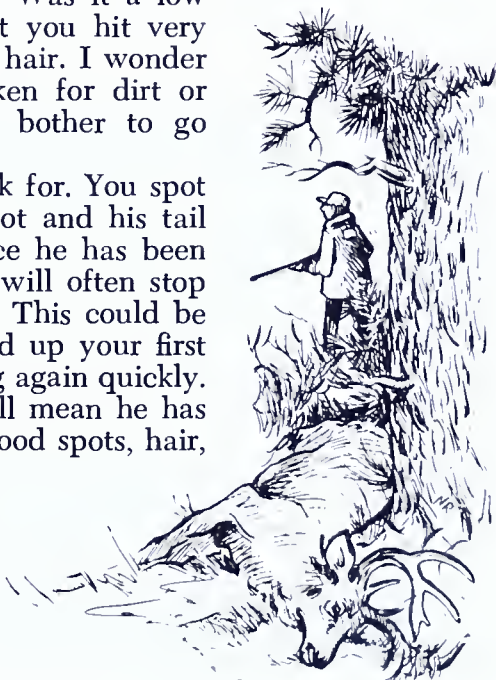
While examining this buck I couldn't help wondering how many deer are shot at, hit—and assumed missed. That is what encouraged me to write this.

After *any* shot, even one that showed no evidence of having been a hit, a thorough search should be made. It is always possible that "miss" was a hit.

For example, you are taking a bead on a deer when it moves suddenly. At the sound of your shot a billow of dust appears below. The deer turns and runs into the thicket. Was it a low shot? Possibly. It's also very possible that you hit very low on the brisket and what you saw was hair. I wonder how many times exploding hair is mistaken for dirt or dust. I also wonder how many hunters bother to go and look.

There are certain signs a hunter can look for. You spot a deer running with his flag up. You shoot and his tail drops immediately. There is a good chance he has been hit and hit hard. A deer hit too far back will often stop running quite soon and stand humped up. This could be your chance to bag him if you've followed up your first shot. But don't waste time. He can be going again quickly. In general, any unnatural reaction can well mean he has been hit. But you should look for signs—blood spots, hair, etc., even if you believe you missed. Often a deer gives no indication he has been hit, runs off and dies, and goes to waste.

Fellow hunters, as a sportsman I ask you to follow up that shot and make sure it was either a hit or a miss. I didn't enjoy finding that buck.—*Ted Montgomery*





I First Saw the Big Black Buck on Opening Day of Bear Season in '38. I'd Volunteered to Make the Laurel Point Drive for My Buddies. It Was on This Drive I Spied the Huge Antlered Deer We Came to Know as . . .

WE LEFT CAMP by different paths that first morning. My comrades Earl and Mel went to their stands, while I cut across to another valley to begin driving. During the night it had rained. Underfoot, it was still soggy but quiet. I dropped down off the ridge and was just about to enter a beaver-chopping meadow when I saw four deer. They were feeding and hadn't heard my approach. I crouched to get a better look at them and in so doing bumped my gun butt against a log. The deer raised their heads and started moving. It was then I spied him. The second deer from me had a huge rack. A rack like, well, like those bucks we deer hunters dream about. It was wide and high, heavy and long tined. How many points, I don't know. I just gawked while the deer melted into the scrub oaks and aspen. I do remember the antlers appeared very dark.

Later in the day when I reported to the other fellows about the big-racked deer, Earl remarked, "Damn shame buck season wasn't open, but in four days the rest of the gang will be here and we'll go after that jasper." Mel voiced the same opinion, but added, "We'll hunt that big hollow and its sides the first day. One of us should get a crack at him." Those ideas corresponded with mine. When Ned and Dave arrived in camp the evening before deer season



BLACKHORN

By E. E. Apel

we put it up to them. They were entirely agreeable, so we planned a campaign for the next morning which centered around a buck that none of them had ever seen.

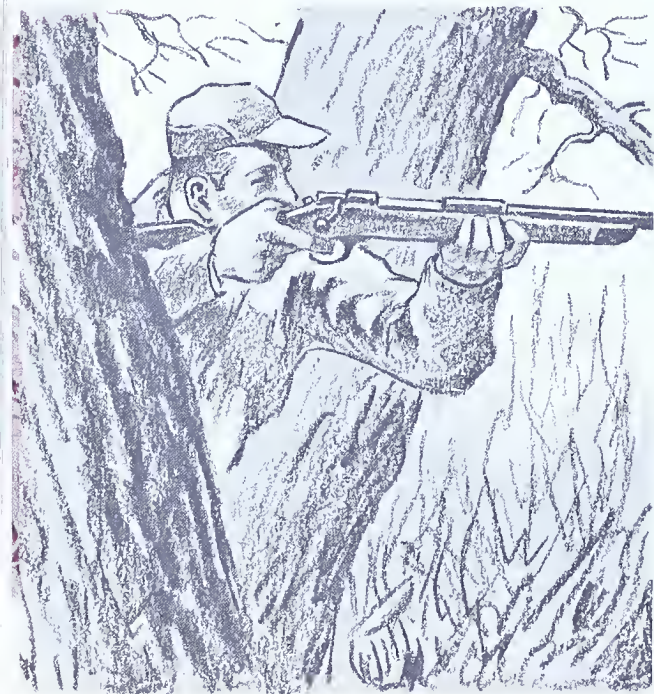
Opening day was clear and frosty. We had had some four inches of snow. Conditions seemed ideal for our try at the big, dark-antlered buck of the beaver-chopped valley. Earl was to go to a known crossing at the point of a stony escarpment, some 500 yards below where I had seen the buck. Dave was to be on the opposite ridge. He was to climb atop a huge jumble of stone known as the Wildcat Rocks. This location gave him a splendid view of the valley and the slope on his side. Ned, Mel and I were going to drive—one to each sidehill, one down the middle of the hollow.

Our plans allowed an hour for the watchers to reach their stands. They had left camp before 7 o'clock and now as the legal shooting hour arrived we moved into our driving positions. A whoop from the sides, an answering howl from me, and the season was on.

We had driven about a quarter mile when a rifle cracked. I couldn't place the shot from down in the hollow, so called to Mel. He answered that the shot was from close to where Earl should be watching. There was only the one

shot. We put the drive on through. When it was completed, we assembled and Earl, in a greatly excited manner, explained.

"I got a little twisted up back there in the scrub," he said, "and just as I was coming out onto that point four



DAVE WAS JUST stepping up into the crotch of a divided oak when the big black-horned deer came into view. His shot was many feet high. . . .

deer broke over it. One of them must have been that buck we're after, 'cause he's big and not only his horns are black, but he's plenty dark. You didn't exaggerate about his rack—it's plenty big and it's black. Well, I threw up the gun but my binoculars got between my shoulder and gun butt. The longer reach as I went to get into the sights pulled off the shot and it went way high. Boy! What a buck! Would I ever like to get another crack at him."

The explanation of the miss was blandly accepted by the rest of the gang, but from that day on, this point has been known to us as "Ague Point."

We couldn't catch up to the black-horned buck that day, nor did we see

him again during the season. It was the next small game season before we knew if Blackhorn—as we came to call him that winter—had come through the hunting season. Our report then came from a fox trapper who told us about "the biggest dang buck deer you ever want to lay eyes on and he's black and has horns to match his hide. He's using the first big hollow south of here." From this account we were sure our prize was still around. It was with added enthusiasm we prepared for the coming season.

Seen but Escapes

Our hunting in '39 was patterned after the previous season. It was a duplicate of the year before, inasmuch as Blackhorn was seen once and escaped unharmed. It happened on the third morning of the season. The weather had turned bitterly cold. Mel was loping along the trail to a crossing, when Blackhorn leaped the path. Mel drew down on him, but for once Mel's trusty "Old Betsy" wouldn't fire. The well-oiled bolt had been gummed up by the below-zero weather. The temperature climbed 20° in that vicinity!

When Mel finished cussing his hard luck he called us to him and we started after the black buck. How far we followed that trail we do not know. It led us across flats, up ridges and across valleys that we had never seen. At 3:30 we decided we had better orient ourselves and get headed toward camp. It was hours after dark before we got to the cabin. At supper Mel gave forth with the information that this buck was bigger by far than any he had ever seen, dead or alive. Yes, he was black—horns and all. Points? Mel guessed the number to be 12 at least.

The next season two of us got to see those black antlers. I had downed a 6-point the third day of the season. The next day, while driving, I saw Blackhorn standing—not over 35 yards away. It was my turn to cuss and n

lack of patience got a good going over. Why hadn't I waited? Only the Red Gods know.

Early on the following day we were back to that section. We reasoned that Blackhorn hadn't been scared away. Earl, Ned and I put on the drive. Dave was watching at the Well Field crossing. Mel was on another well-marked pass. Dave was just stepping up into the crotch of a divided oak tree when the big black-horned deer came tearing into view from behind him. It was Dave's first glimpse of that enormous rack. The single shot he was able to get was many feet high. When I came out to him on the drive, he was mighty agitated and exclaimed, "I saw the black-horned buck! He slipped up from behind somewhere, then high-tailed it right into the drive. Didn't you see him? What a rack!"

There was no tracking snow and we couldn't trail the buck. He had always practically left that part of the country when fired upon anyhow. In camp that evening, Dave again reviewed the event and wound up with this well-founded remark, "Those big black antlers should be the death warrant of that deer, but as far as I'm concerned, they were his lifesaver. I was watching those horns and didn't pull down into my sights at all."

Go to Camp Often

We go to camp as often as possible during the fall and small game season. These jaunts serve a multiple purpose. We prepare camp for the coming big game season, we hunt grouse, and we spot where bucks are "using," by their rubs. It was on such a trip, a bird hunt, when I again saw Blackhorn. He walked across an abandoned farm field in full view of where I had sat down to eat lunch. This time I had an opportunity to count points. On the near side there were 7, on the far side at least 6, but I believe there was a base line I couldn't quite make out. The report of this observation, as carried back to the rest of the gang, was

received with many and varied comments. A summation of the remarks amounted to a vow of, "We'll get that buck this year!"

Our deer hunting for this year was patterned to fit the remarks we had made. For three days we really put on the pressure. On the fourth day, the break came. We were working a very rugged mountainside and jumped a deer in a jungle of rhododendron. Mel was above me on the mountain, Ned was below. Earl was within sight on a jutting rock hogback. Dave was at the head of a draw to Earl's right.

Heard Watchers

The deer must have heard the two watchers coming into their stands, for it didn't take out along the side of the mountain but went down toward Ned. He heard the brush cracking and turned just in time to realize he was directly in the deer's down-mountain path. By falling backward in the brush he avoided a collision. From that position, flat on his back, Ned had his first glimpse of Blackhorn. That glimpse brought him scrambling back to his feet. He could see the big buck still plowing down hill and snapped a shot at him. Just as he fired, the deer turned onto a bench. Then Ned yelled,

THIS TIME I had an opportunity to count Blackhorn's points. On the near side were 7, on the far side at least 6. . . .





AS I FIELD-DRESSED THE DEER, I noticed something most unusual. "No, couldn't be, it just couldn't be," I exclaimed.

"I made hair fly, somebody go down there and check. I'll stay here and direct 'em."

I went down. Ned was certainly correct. He had made hair fly and more than hair. There, below yard-long hoof-scores where Blackhorn had skidded into his turn, was a whole deer tail and a hunk of haunch meat the size of my fist. The luck of the big buck stayed with him. He traveled south and hit the southern slopes. There, because of lack of snow and blood trail, we lost the track.

Pearl Harbor

We finished out the week trying to locate the wounded buck, but failed. When we arrived home late Sunday, December 7, 1941, we were informed about Pearl Harbor.

Saying the next three years of deer hunting were lonesome is to state it mildly. Ned became a GI with the Combat Engineers. Mel went into the

Navy as a Specialist Gunner. Earl was moved by the Department of the Interior to Colorado. Dave and I remained on the home front. He and I managed to eke out a couple of trips to camp, but they were lonely affairs. Often the evenings were steeped in memories of when "the gang" was there. Naturally, the talk swung to Blackhorn and there was much conjecture as to whether he was still alive and in that part of Pennsylvania. Dave and I hunted for him and asked hunters we encountered whether they knew of a big, dark-bodied, dark antlered deer. Our questions brought the same results as our hunting—noting of any consequence.

The season of '45 and the "old gang," with the exception of Earl, managed to get together again during the second week of deer season. We put on a real old-time hunt and hunted a couple of bucks quickly. Then we started rambling far and wide in que

of some sign of the big buck whose image haunted all of us. This was a waste of effort, as were our questions when we met other hunters. When the last day of the season arrived we decided to again drive the rhododendron patch where Ned had "clipped" the much sought for buck.

On this drive Ned insisted on taking the lower part again. Mel was driving above him. Dave and I took the stands, for we hadn't had shooting. The drive was just about completed when out to the side of us on the flat a shot was fired. Within a minute five deer broke over the rim right into our midst. The next-to-last deer was a buck and had a small rack that I could plainly discern. My first shot put him down for keeps. As I fired I noticed the deer was very dark bodied, but I knew this was not a big antlered buck like Blackhorn.

We gathered round the downed buck and the fellows began to kid me about the prize head. It had 6 points but you could span it every way with

outstretched thumb and index finger. My only comeback was, "I couldn't see the horns so well — no wonder, though, because the deer was so black I thought it might be that old buster we've been after so long."

Something Most Unusual

The other fellows dragged the buck to a more level spot while I emptied my gun, shed coat, rolled up sleeves and prepared to dress him out. The fellows were still making wisecracks about my "prize head" as I split the deer open and removed the pouch, lights and heart. Then as I cut farther back, I noticed something most unusual.

"No, it couldn't be, it just couldn't be," I exclaimed.

Someone demanded, "What just couldn't be?"

I answered with one word, "Look!"

They looked where I was pointing. This dark, tiny-horned buck was tailless and had a hand-sized, hairless, leathery scar high on the right haunch.

Aim for a Triple Trophy

Last year, 110 hunters qualified for a Triple Trophy Award, offered to each hunter who legally takes an antlered white-tailed deer, a black bear and a turkey in Pennsylvania. Interest in the program has spread to other states, also, particularly since Charles Winch, of Ohio, received the coveted patch and certificate in 1968. The addition of the spring gobbler season gives hunters an added opportunity to complete their quest. Many hunters will try for Pennsylvania's Big Three this license year. Be one of them.

Phones for Potter County Deer Hunters

The Bell Telephone Company again will establish special communications centers in Potter County for the convenience of hunters during the peak of the deer season.

The communications facilities will be at the Galeton Volunteer Fire Department building and the Potter County garage in Coudersport. Each will be manned with personnel and equipment to handle up to 25 calls simultaneously. Bell personnel also will take incoming messages and post them for hunters still in the field. Those using the Galeton center can be reached at (814) 435-2112. Hunters using the Coudersport center can be reached at (814) 274-0028. Each will be open from 2 p.m. to 10 p.m. daily, December 1-4.



The Trio of Buck Hunters in This Family Didn't Ask the Impossible. All They Wanted Was . . .

Three the First Day

By John D. Kendig

THE WHOLE THING began at the Ibach dinner table. Ella Mae said: "I guess I can expect big things from you fellows this year, now that you can all go out. Never thought I'd have three hunters in the family. Jeff's all set for his first try, Denny's been out twice and it seems as if you've always been at it, Burney."

Burney smiled up at her. "Ever since I could handle a gun," he said. "You know, it gets you. First, I went out just to shoot a deer. Now, sometimes I think I go out for more than that—."

"Where are we going, Dad?" Jeff broke in. "Bill Henry's dad is taking them way up into Potter County."

"Let's go up into the big woods," Denny added quickly.

Burney grew more serious. "Just a minute—I don't like you boys ganging up on me like this. Don't forget we have that big tree job down at the Fulton birthplace to do for the Historical Commission. I can't spare the time to go way up north. We have one day to hunt. We can do better here at home where we know the country and its deer. Remember that whitish buck we saw last summer? We might even get a chance at him over in the Furnace Hills."

Ella Mae helped along. "Wouldn't it be something," she said, "if you each got one—on the first day?"

"That's a little rough," Burney said. "After all, it's Jeff's first hunt. But we could try. I usually get one and so does Denny, but all on the first day? We can't really expect to do that. You remember that one year we had a camp of sixteen up there, drove the hills for two weeks and only got three

bucks. There just aren't as many deer around Lancaster County as some places."

He glanced at the two boys. Denny had sobered up, too, but darned if there wasn't a bright little twinkle in Jeff's eyes.

"I know a good spot," he said quietly. "Up on Sheep Hill, where I built that little shelter to watch the birds. Last Sunday I saw a deer go by there."

"Oh, Jeff," Denny said, "it was only a doe."

"It's a deer," Jeff retorted, "and where there's one there can be more. Dad said so."

"Three more? Bucks?" Denny questioned.

"Could be," Jeff returned, unruffled.

"Could be," Burney echoed with a hopeful smile.

"All right," Denny assented after a second or so, "Let's do it!"

Ella Mae looked from one to the other and back again. "I see you've got your deer shot, already," she said.

Not Easy

But it wasn't that easy. In fact, it looked once as if Burney couldn't go at all. He had got started on the big tree job and it was bigger than he had expected. It looked for a time as if he couldn't spare even one day to go hunting. Somehow, at the last moment, he had.

On the Sunday before the season opened, they went over to their camp in the Furnace Hills, located right on the edge of the Pennsylvania Game Commission's Middle Creek Waterfowl Project. They set up camp at their trailer, with Ella Mae as chief

cook and campmaker. After getting settled, the three men of the family went exploring a bit.

Early the next morning they were up and ready. It was a bit hazy, with the sun just starting to peep through, and the woods had that half-hidden

in her heart for their safety and good luck, and there were others there, too—somewhat similar and yet different for the very deer they were going to hunt. She was remembering the quiet beauty. She crossed her fingers and went inside.

Few Signs of Life

There was extreme quiet this morning, with few signs of life, and Burney waited he got to thinking back over the years. He had bought the land in 1957. That first year and the next he had shot does. In 1959, it had been a fine 12-point buck; 1960, a 8-pointer; 1961, a 5-pointer; in the following years, a button buck, another doe and so on—all recorded with their statistics and photographs in the little log book he kept back at the camp. He liked hunting on his own acres, where he had learned more than ever the true wonder of the whole broad picture of the woods. Not only the deer, but also the other wildlife, too. The birds and small animals, the insects, the fungi, the plants and trees and how they all together into a most fascinating life plan.

Getting restless and hungry after awhile, he got out an apple and ate. Just as he finished, he heard a deer. He could hear the animal moving nearby, but couldn't see it because of a heavy lower screen of brush and branches. He waited. The noise seemed to be coming closer. Finally he saw a buck coming toward him. Rifle raised, he waited for a clear shot. At the right moment, he fired. The deer fell. It was a 7-point buck.

When he got it back to camp, Ella Mae looked it over proudly and said, "That's number one."

It was only 8:30.

When Denny started up the trail there were few signs of deer activity. He went slowly and carefully, watching intently all about him. Coming to his favorite stand near a split maple



JEFF'S DAD, approaching from camp, knew the boy didn't need the rifle when he heard the blast of the shotgun.

fascinating look that leads you on, that promises things almost beyond what you can best imagine or expect. Burney felt it keenly and he could see that 17-year-old Denny was also well aware of it and that Jeff was just brimming over with it, hardly being able to keep still a moment, anxious to be off. Likely he had slept little that previous night, dreaming up the coming day's hunting, possibly even of finding the white buck.

"If you don't hold still better than that," Denny said, "you won't even be able to hit a deer if you do see one."

"Okay," Jeff returned, "you tend to your own shooting."

And so after a few last words of caution from their father and instructions to make the most of their opportunities, they were off on the big hunt. Each left in a different direction.

Ella Mae stood at the trailer door and watched each disappear into the forest. Little anxious feelings arose

he stopped and spanned the country with his binoculars. He saw only a few frisky squirrels in the trees, here and there. He daydreamed about the white buck. But it takes more than dreams to get a deer, and so he forced his mind back to his present hunting.

Dad's Shot

He heard a shot nearby, and judged it was likely his father's. That was almost certain to mean a deer for the family, for his father rarely missed.

About 9:30 he saw two deer come into range and he watched them eagerly. They approached an open spot in the woods and when they got there, he whistled. They stopped and looked around. It would have been a good shot, if one were a buck, but their heads were bare.

At 10:30, he started to work away on his lunch and then realized he was getting cold. He did a few push-ups to get warm. Then 11 o'clock came.

It had seemed for a while that something was about to happen. All of a sudden he looked right up into a deer. It was coming almost directly toward him, as if it had been chased, then it angled off a bit to the side. He could see its antlers, even without the glasses. When the deer got more in the open, he whistled and it stopped, but not at the right place. It was so hidden by tree trunks, he could see only the back of it.

He could get a shot, but not a very good one. Should he wait until the deer moved for a better chance or see how well he could do as it stood there now? If he waited too long, the deer might start up too quickly to bring down. He waited a little longer.

Nothing happened except that he grew more anxious all the time. So anxious that he shot. The deer seemed to go up into the air, then ran toward him, cut across in front and then ran back the very way it had come in the beginning. In a second it was out of sight. Now what? Would he get a chance at another? Or was it better to

try to find this one? All kinds of thoughts flashed across his mind.

Almost before he realized it, he was on the hunt for his deer. He went to where he had seen the deer. The leaves were disturbed but there were no signs of blood. He set off on the deer's trail as well as he could find it, but it was some 75 yards before he found the first blood; then more and more—and finally the deer lying there before him. It had 5 points. It was 11:30.

When he got his deer back to camp, Ella Mae was happier than ever. "Number two!" she exclaimed.

"Guess I'll have to go out and get the third one, myself," she added. "Wonder if Jeff could shoot a deer if he saw it?"

"Leave it to Jeff," Denny said. "Where's Dad?"

"Oh, he started out to give his rifle to Jeff so he wouldn't have to use the shotgun and slugs, but he's been gone for sometime. I'll bet he's found some other hunters to talk to." She laughed. "Maybe he's lost."

"Guess I'll go find them," Denny said.

"No, you won't," his mother said, "I want one of you left around here."

Early that morning, Jeff had crossed the road and started up Sheep Hill. He, too, walked slowly and quietly, thought much and kept his eyes open to the forest around him. Once he stopped to watch a raccoon climbing up a tree into the sunshine.

On Stand

Before long he reached his stand and waited, eyes alert. A few squirrels ran here and there around him but little else seemed to happen for a long, long time.

Once there was a rustling in the leaves and a hunter walked by off to the side. Scarcely had he moved out of sight before a 7-point buck followed almost in the tracks of the man. Jeff's heart started racing. Here was



BURNEY IBACH IS FLANKED by his happy sons, Denny and Jeff, as they proudly display the three bucks they bagged the first day.

his chance. Here was his buck. He raised his gun, but not carefully enough. The deer sensed it, was frightened and was gone. Disappointment washed over him. He was jittery for the rest of the morning.

Other hunters seemed to be around and he didn't like that either.

At 11:00 he ate his lunch but it didn't taste right; he couldn't help thinking of that 7-point buck vanish-

ing off into the trees. He waited on through another hour or so, got even more jittery, almost felt like quitting but somehow couldn't.

After awhile he saw a group of five does go by. If he didn't get his buck, Denny might kid him about does forever. He didn't like to think about that. He tried to think about the white buck. It wasn't all white, just whiter than most bucks and a good

prize for any hunter to get.

A noise in the leaves again and he spotted four does. Then a peculiar thing happened. It was almost as if he could feel other eyes upon him. He turned his head a trifle and saw another deer coming up on the other side.

More carefully than ever before, he raised the binoculars to look at the deer's head and he saw it had a rack. He waited to get a good shot, almost had it, lost it, had another chance and took it. The shotgun's blast rocked him considerably and made a terrific noise. He saw the deer fall, but as it fell, he could not see one spike on the deer's head. What if it wasn't a buck after all? Now he was excited. He was scared. He was happy. He was scared again. Unable to contain himself, he dashed over to the deer.

Burney, approaching from the camp side, soon knew that Jeff didn't need the rifle. There had been that lusty blast and he quickly had found Jeff standing over his deer shouting excitedly over and over again: "I got him! I got him!"

It was 2:15 in the afternoon.

They looked the deer over together. It had four points, but strangely located. Three were on one beam and one on the other. Apparently one side had been broken in the past.

Burney lifted Jeff up by the shoulders proudly and set him down again. "Not bad!" he said. "Not bad at all for a 13-year-old on the first day of his first deer hunt. You're a real hunter, boy!"

But all Jeff could say was, "I got him!"

Together they dragged the deer back to camp. The delighted Ella Mae counted, "Number three!"

And then everybody was whooping it up and carrying on and hugging each other and everybody else, and Ella Mae was happier than a queen and Burney just stood there, stunned like, with the full realization of what they'd accomplished, and said: "If we all live to be a hundred we'll never do this again. It can't happen to a family more than once. Three the first day."

But Jeff had the last words. "I got him," he said.

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The Present May Be Only a Knife Edge Between the Past and the Future, but Sometimes Something Forms a Link . . .

ACROSS THE YEARS

By Bill Rozday

AFTERNOON on Spring Creek. The sun's rays are hot . . . painfully bright. Scattered clouds scurry across the sky. The thin blue haze that blankets the distant countryside is disturbed by muted thunder. Soon a massive gray thunderhead partially obscures the pallid disc of the sun. The air becomes tinged with moisture. A lone Indian studies the darkening sky. Forced to rely on nature for his—and his family's—food, he is sometimes at the mercy of the elements. His battle with them is never ending.

An ear-splitting crack of thunder shatters the heavy silence, followed within moments by a deluge of water. The Indian seeks refuge under an overhanging shale ledge that juts out of the hillside. Moodily, he views nature's display of overwhelming power. Within minutes, Spring Creek is transformed into a muddy, raging torrent. The lush vegetation bordering the stream bends beneath the surging current that overflows the low areas.

But the downpour is too violent to be prolonged. Soon it slackens and then, reluctantly, ceases. The clouds move away and the sun turns the wet leaves into dazzling points of light. The storm's passage brings behind it a fresh air current that the Indian savors on his cheeks. But he feels it for only a moment. It is forgotten when, from a nearby clump of trees, steps a white-tailed buck. The draw and re-

lease are instinctive. The sharp arrowhead pierces the deer's neck and, broken from its shaft, buries itself in the mud. . . .

. . . Now, generations later, another lone hunter moves cautiously along Spring Creek, his rifle ready and eyes alert for any sign of a whitetail, though one part of his mind is conscious of the gray clouds that have begun to drop their small hard pellets of snow. As he looks down to check his path, something unnatural—man-made—catches his glance. He stoops and gently pulls it free. A flint arrowhead lies on his palm. He studies it for a minute, his thoughts wandering back through the corridors of time, trying to visualize the hunter who once had used this ancient projectile. Then, becoming aware of the increasing intensity of the snow, he looks for shelter, sees an outcrop of shale just ahead, and moves toward it, seeking protection.

Protected by the ledge, he divides his attention between the storm and the arrowhead until a nice buck suddenly appears not far away. Without conscious thought he shoves the arrowhead into a pocket, instinctively aims and fires, then hurries toward his trophy, unmindful of the ejected cartridge case which falls into a crevice of the rocks behind him, where someday . . . perhaps. . . .

Good Old Days?

During the years 1915-1919, the average harvest of antlered deer in Pennsylvania was 1885 annually. In 1967, 78,268 bucks were taken in the Keystone State. In addition, 66,147 antlerless deer were bagged, for a total harvest of 144,415 whitetails.



It Was Only Superstition, He Knew. Yet Fragments of Half-Forgotten Bad Luck Stories Kept Flitting Through His Mind, and All Said . . .

DON'T SHOOT A WHITE BUCK!

By Albert G. Shimmel

MAK stood beside the decaying log that separated the waters of Moos-Hanne from those of East Swamp. A brace of fat pickerel swam docilely, tethered to the stern of his weathered pram. His battered hat, cradled in the crook of his left arm, was heaped with wild cranberries.

A trio of wood ducks flashed by, the harlequin colors of the male contrasting sharply with the somber feathers of the females. He followed their flight, noting that the maples already were turning color.

A movement along the hemlocks at the edge of the swamp caught his attention. The lower branches of a single tree tossed tempestuously as if a gale of wind were blowing. The movement stopped then began again with more violence than before. Mak grinned. A buck was brooming his antlers against the resilient tips of evergreen.

From the blueberry thicket across the swamp came the shout of a jay. Mak's eyes turned automatically in that direction. There was a glint of light as if for an instant the sun had struck polished metal. There was a vague movement and then all was still.

He looked back toward the hemlock. Surprise made him catch his breath. He blinked his eyes in disbelief, his mind refusing to register the wide antlers . . . long tines . . . the even symmetry of a perfect rack. It stood like a cameo against the dark shadow, ghostly pale. A white buck!

Mak stared, rooted to the spot. His eyes smarted with the strain. He blinked again to clear them. When he looked toward the hemlocks . . . suddenly . . . unexplainably . . . nothing.

There had been no movement, no warning twitch of the ear. The buck had disappeared.

A shiver rippled his spine. He shook himself mentally. The age of superstition was past. Must he remind himself? Yet he remembered . . . fragments of half-forgotten stories flitted through his mind. What was the tradition? Now he remembered. . . . To covet a white deer, or to attempt to kill it, brought bad luck. Bob Jamison had been an expert axman. But his ax had slipped and he had lost a foot . . . two days after he had shot a white deer. Old Alex . . . lost his eye from a falling branch shortly after wounding a white buck. It was his shooting eye. Coincidence? Maybe. But he never hunted again. . . . Mak shook his head. He did not believe. . . . Or did he?

Perplexed

He rubbed his nose with a gnarled forefinger. He was perplexed. How was it possible that such a deer could mature within the thickets of the swamp without his knowledge? Of course, there were areas where he did not go except when the footing was firmed by cold. The seepage from the underground springs fed the swamp and baffled the coldest winter. They kept alive the hazards of quicksand and unfrozen muck. Still his familiarity with this wild land reached back to boyhood. It piqued his pride that such a splendid creature should so long escape his observation.

Again, his eye caught a flicker of movement at the edge of the shadows. A doe, her ears megaphoned toward the blueberry thicket, stood frozen.



MAK SAW THEM COMING THROUGH the trees, and stared in disbelief. He had seen the legend die, and yet it lived. . . .

Suddenly she pivoted and was gone.

A figure, almost invisible in neutral woodsman's clothes, moved fugitively out of the shadows at the edge of the timber. He passed the spot where the doe had stood and went directly to the hemlock where the buck had wrestled with the springy branches. Mak watched as he examined the signs critically. Occasionally, he stooped so low as to be lost from sight behind the screen of bushes. Mak was convinced that the man carried a rifle, but at that distance could not be certain.

Poachers

A handful of poachers, operating from a distant valley, sporadically raided the deer herds and carried on an illegal traffic in venison and trophies. Most of their activities were confined to the farms along the margin of the valley. For the most part they avoided the Moos-Hanne as they would the plague. Mak had been the reason for their reluctance. Before his retirement he had intercepted some of the ring that sought to expand their operation to include the deer under

his guardianship. After a few unsuccessful experiments they left the swamp in peace. It had been a costly game when they matched wits with the quiet woodsman that seemed to be everywhere at once.

Now that a younger man had come as his replacement, Mak speculated if he would prove the deterrent necessary to keep the poachers away. The white buck presented a challenge. It was more secretive than a normal buck. As a trophy it would command a fabulous price. How had the poacher discovered its range? These were some problems that Mak pondered but failed to bring to conclusion.

Time would bring answers. Mak stooped to place the cranberries against the bow of the pram. He flexed the arm on which he had held the berry-filled hat then straightened to look once more at the shadows below the hemlocks.

All was quiet. A crow coasted in and perched on a weathered snag. It called once, looked around then settled to preen its feathers. Mak was satisfied the poacher was gone. He

listened a few minutes and then turned again to his boat.

October alternately panted and shivered across the swamps and high ridges that ringed the Moos-Hanne. When the frost killed most of the insects, the tree swallows were the first to flock and flee. The red-winged blackbirds moped among the frost-browned cattails. White-footed mice gathered the fluffy tops of the cotton grass to make winter nests. Woodcock slanted silently across the full moon and then tittered down to dapple the dark muck with their splashings. They fed at dawn and dusk until a storm sent them hurrying south. Migrating geese and ducks brought gunners to the blinds. The stillness of the swamp and lake was broken by the sound of shots.

White Buck's Habits

With plenty of leisure time at his disposal, Mak haunted the East Swamp and the ridges that lay between it and the lake. With infinite patience he pieced together evidence that gave him knowledge of the white buck's habits. He found that the labyrinth of swamp and the ridge, rich with ripened mast, comprised its range. A dry hummock screened by evergreens lay in the most inaccessible part of the swamp. This was his hiding place by day. He seemed aware of his conspicuous coat and avoided the light as much as possible.

As the rut drew near the thick-necked veterans ranged afar. They sought for other bucks to test their strength. Only the phantom kept his place and seemed content.

It was cold at dawn. Mak crossed the lake and tied his pram to a convenient snag. He climbed halfway up the ridge, then turned and looked toward the East Swamp. Mists drifted up from the water in thin veils. He saw the wake made by a beaver as it towed an aspen branch toward its dam. Suddenly, it dived. He heard the splash made by its tail, long after

it had disappeared. A second splash told that its unseen mate had been alarmed and with him sought the safety of their lodge. Mak searched the slope to find the cause of their alarm. He turned toward the lake. Only the floating aspen branch remained. The beavers did not reappear.

Moving cautiously, Mak reached the crest of the ridge. Half sounds came, strangely muted to his ears. Ahead was a cove, bare of trees and undergrowth, with here and there a dome of rock jutting just above the thin soil. A screen of blueberry bushes hedged the spot. Behind this lattice he could see patches of white and gray that moved and stilled.

There came a crash and then the sound of tine grating on tine. Excitement surged through him. The white buck fighting—this he must see!

A dead snag of pine stood twenty yards ahead and just beyond a scraggly oak with spidered limbs that almost reached the ground. The leaves were damp. They made no sound beneath his feet. He kept the snag between him and the glade.

The bole of pine was smooth under his hand. He did not pause for long but pushed ahead. Crouching as he ran, he reached the oak unseen. He did not climb but squatted on its buttressed roots. The jousting field lay open to his view.

Head to Head

The knights stood head to head, heaving flanks and muscles tensed with strain. The pressure of the effort made their swollen necks seem even larger than before. Mak saw the green light that lit their eyes.

When the intensity of effort grew too great, they backed apart to rest and catch their breath. Again, with antlers low, they moved. A yard apart, they lunged. Each antlered crown was at once a weapon and a shield. Thrust, parry, twist, wrestle—then back apart to take the measure of the foe.

The turf was torn and trampled.



MAK SAW THE white buck fall, shot through the heart . . . but the poacher never claimed his victim.

Their strength seemed matched. Once the white buck tripped but recovered before the other could follow the advantage. Mak saw it then—the gray buck's power was at an ebb. The white buck slowly forced his adversary's head toward the ground. One antler touched the ground. The victor disengaged. He struck out with a forefoot. The blow fell short. The gray buck knew defeat. He turned and ran. . . .

The white buck did not press his foe but turned toward the lake. Two does stepped from the evergreens. He touched the smaller with his nose. She shied and walked demurely to the woods. He followed with the other at his side. . . .

A rifle shot cracked like a whiplash. The white buck flinched, then pivoted and ran. Mak saw the blood spurt

from the chest, low down. Before it reached the woods it fell . . . shot through the heart.

After a while, above Mak's head a chickadee lisped as it searched for spider's eggs. The silence pressed him down. Minutes passed. Mak's gaze roamed the perimeter of the glade. A figure slowly approached the fallen buck. Mak was about to rise when just beyond the two a dead branch cracked. The poacher jerked his head and looked behind. Suddenly, he turned and ran. Before he reached the woods he tripped and fell. Beyond, Mak saw a second man. He wore a uniform of forest green. . . .

A minute later, Mak and the Game Protector stood above the fallen man. His neck was twisted awkwardly . . . there was no pulse. Mak felt the prickles crawl along his spine. He tried to shake the spell, but the old thoughts came again. A whisper said, "Don't shoot a white buck." Mak left to summon more help.

Mak tied the pram and climbed the ridge at dawn. The geese were coming in. Winter was past and summer lay ahead. The swamp was flushed with green. A gray buck fed beside the swamp. His budding crown was barely visible.

Mak saw them coming through the trees—a slender doe and at her side a fawn. Its coat was white as snow. . . . Mak stared in disbelief. He had seen the legend die and yet it lived. . . .

The doe fed the fawn and watched it play above the cove. When the sun touched the ridge, she bedded him beside the snag of pine. . . .

Doesn't Seem Fair

Peeping frogs are eaten by almost every kind of predator, from birds in treetops to fish under water.

Underground Approach

A mole can burrow at the rate of 12 to 15 feet an hour, using large forefeet that extend sideways. It detects danger through its sensitive tail and snout.



Opening Day Is Best, But a Second Week Deer Hunt Can Be Fun Too, When There's . . .

. . . Just the Two of You

By L. James Bashline

ALL THE STATISTICS compiled about hunter-success ratios tell the deer hunter that his best chance is the first hour of the first day. Now, I'm not about to come up with any theory that tries to disprove that fact. And it is a fact. In some areas as many as 80 percent of the antlered deer taken are dropped the first two hours of the season. I don't think that many deer hunters doubt this since they know darn well that the first barrage of shots on opening day has got to be responsible for a lot of venison. All of this may be true . . . but, my personal opening day success has been somewhat less than eventful. In fact, opening days have proved at times to be downright dismal. Out of 14 ant-

lered deer bagged in Pennsylvania, only three have been taken on opening day. Oh, sure, I had plenty of chances that should have provided something to tie a tag onto, but something always went wrong. As a result I have become a "second week" deer hunter. It would take a major catastrophe to keep me out of the woods on opening day, but my real effort is usually made after the initial flurry.

The season of 1950 marked my first discovery that second week hunting was worthwhile. I was attending an out-of-state school and, much to my disappointment, the first week of buck season would have to pass without my participation. On Tuesday morning of the second week I hit the woods of

Tioga County without too much enthusiasm. Most of the bucks had been worked over pretty well, I thought, and my chances seemed pretty slim. Besides that, it was raining.

I hunted up a little valley that is almost on the Potter-Tioga line. My goal was an old apple orchard that in past years had been a good producer. There had been a four-inch snow cover, but the rain had knocked most of it away save for an occasional patch of gray slush. It was very early, just past the legal shooting hour, and visibility was poor. As I approached the orchard I could see that the apple crop had been a good one. A few stragglers were left hanging on the upper branches. There must've been some on the ground too . . . because right there in the slush was a big-eared doe looking straight at me.

We saw each other at the same

SOMETIMES THE SECOND week of the season can provide better hunting—true hunting—than opening day.



instant and we both froze. We stared. She couldn't wind me and I couldn't see more than a dozen yards beyond her. I tried to penetrate the haze, since it was a good bet more deer were with her. There were. As we engaged in our test of nerves the rainy fog shifted a bit and I could make out the shapes of three more deer about 20 yards behind her. Sex unknown, of course, but hope is the hunter's driving impulse and I tried to grow antlers on one of them. The doe apparently decided that I was harmless and went back to grubbing in the slush for fallen apples.

Statue Position

I tried to maintain a statue position until I could get a better look at her companions. The fog kept shifting and one of the deer began to walk toward me, testing the wind with a half-snort every second step. As bucks always seem to, this one kept his head neatly in line with some low apple limbs, making it more than difficult to get a good look at his head. Then came a big snort and he swapped ends and started to jog away. The other deer did likewise—and then outlined against a patch of almost-white snow I could see a pair of small antlers between the ears of the biggest deer. No shot! All I'd have had to shoot at would have been a gray blob moving away through the fog. Hardly a safe operation.

The deer hadn't moved off with a headlong rush, so I reasoned they probably wouldn't move too far before stopping to assess the situation. The wet underfooting made for quiet walking, and I tried my best Indian technique and started moving slowly toward the area where they had last been seen.

It started to rain a bit harder, making the blind stalk even more miserable, but a bit of luck was forthcoming. The heavier rain caused the fog to lift somewhat and improved visibility. I used the walk and wait sys-

tem. I'd take about 25 steps and then look around carefully for a full 180 degrees. About 200 yards of this and there they were, somewhat to my left and headed in the opposite direction. They were using the oldest whitetail trick in the book . . . doubling back on their trail. Because the rain muffled the sound and no wind was present, they were having a tough time deciding just how much of a threat I really was. The range was about 60 yards and I still couldn't make out the buck. We eyeballed each other for another full minute and then they slowly started to move away. This was my chance. The stubby 257 came up and through a slightly clouded 2½X scope a doe bobbed up behind the cross hairs. A slight shift to deer number two and I saw those forked antlers. The imaginary spot about six inches down from the backbone was held for and the deer hunt was over.

Bad Weather Helps

I'm sure this wasn't a new or unusual story to most old hands at the whitetail game. The interesting part of it to me at the time was the ease with which I could approach these deer. This rather deliberate stalk wouldn't have been at all possible during the first few days of the season. The deer would have been keyed up from hunter activity and undoubtedly wouldn't have responded in the same way. It was true that the nasty day worked in my favor by keeping the noise level to a minimum, but there was a message in that too. While it's never pleasant to hunt on a really miserable day, a lot of other hunters feel the same way and they usually elect to stay in camp and leave most of the hunting to you. When not terribly crowded, most game birds and animals—with the exception of turkeys—are naturally very curious. They are often just as interested to see what you're up to as vice versa. When you're the only hunter in the area this curiosity can be one of the best things



THE FORKHORN THAT Jim Bashline got after trailing it through the fog on his first "second-week" hunt in northern Pennsylvania.

you've got going for you. The big secret (if there is one) during a late season solo hunt is *move slowly*. An oft-repeated piece of advice that the expert deer hunters keep harping on is "move slowly and watch your back trail." I suppose this may be disloyal to the trade, but I have always held judgment on what the outdoor typewriter punchers have to say. Nevertheless, on this score I have to agree with them completely. When not being rapidly pushed, a deer, particularly a buck, is a nosy animal and he wants to get a good look at the creature that is roaming around his bailiwick. Think about it. How many times have you heard hunters relate the story about the buck sneaking up on them when they were on stand? How many times has it happened to you? Exactly the same thing can happen when you are pussyfooting through heavy or quiet cover.



HUNTING ALONE IN McKEAN COUNTY, Bill Butler of Bridgeville took 130-lb. 4-point buck in second-growth hardwood cover.

Howard Snyder of Coudersport is one of the most successful hunters I ever met. He usually hunts alone and is one of the best late season stalkers around. The "sneak and wait" technique is Howard's specialty. He hunts everything (including small game and turkeys) with a 300 Model 99 Savage equipped with a 4X scope. Some years back I loaded at least 10 boxes of ammo for him each year . . . and he didn't use many of them for target shooting. Many of Howard's deer were taken during the second week of the season and I'm sure he was convinced that this was at least as much fun as the "drive and watch" style.

Watch Backtrack

Another episode comes to mind that points up the advantage of watching your backtrack. The final Saturday of the 1956 season had rolled around. I had luckily taken one on opening day that year and, in fact, was in the process of wrapping it for the freezer when I happened to look out of our farmhouse window and saw a deer bedded down on the far side of the valley. It had selected a good lookout point just above our springhouse. Through the binoculars I could easily

pick out antlers. A phone call was made to a deer-less friend in town and I advised him that a careful stalk might put him in shooting range. He pulled into my driveway in a few minutes and the deer was still there. I imagine the buck saw him drive up, but it didn't seem to bother him. Taking the binoculars out to the backyard it appeared that I was going to have a ringside seat to a "fish in a barrel" sort of deer hunt.

My friend entered the woods about 400 yards down the highway and completely out of the deer's range of view. He planned to approach the buck from above and figured that he could get to within 60 yards of the springhouse before he could possibly be seen. A good plan if it worked. The visibility was good and, since the hillside was covered with snow and pole timber, I could see the entire operation. His stalk was a good one, but he must have snapped a twig at the wrong time. The deer got up before my friend could see him and skirted slowly around the face of the mountain. There was no way I could signal without alarming the deer still further. When the stalker reached the deer's bedding spot he started to follow the

very fresh tracks. My friend was a quiet traveler and a good shot and I still felt sure he would connect. Both deer and hunter went out of sight, so I went back into the house and resumed my meat wrapping. There was no point in trying to guess what would happen up on the hill.

About 45 minutes passed when I heard one lone shot. Out to the backyard with the glasses again. On the hill, no more than 20 yards from the springhouse was the buck, lying in the snow.

Tracks Tell Story

After dressing the deer we checked out just what happened. The tracks told the story. My friend had slowly followed the deer for about a quarter mile, when he noticed that the deer was making a slow circle that apparently was heading right back for the springhouse. Acting on a good hunch, my friend decided to backtrack to see if the deer was, indeed, going to double back and cut his track. The deer did exactly that. We followed his tracks and found where the buck had made a loop and picked up the hunter's tracks on his approach route to the springhouse. In fact, as my friend was doubling back he spotted the buck with his head down actually sniffing the human tracks in the snow. Sometimes, a wild animal's actions are amazing; in fact, almost unbelievable.

We've been talking so far about hunting alone during that second week, but two or more hunters can also profit from late season hunts. Deer can be driven more positively and their movements will be more predictable. Again the watchword is, hunt slowly. The silent softshoe drive will put far more deer on the meat pole than will the hollering, whistle-blowing, stomping session. The speed of the drivers will generally control the speed of the deer and, let's face it, a walking or standing deer is much easier to down with a killing shot than one racing at full gallop. A deer so



NICE BUCK FELL to hunter's M64 Winchester as it tried to cross old logging road—which made for easy dragging to the car.

taken is better eating too, most experienced hunters agree.

The point in all of this is certainly not to discourage anyone from hitting the woods on opening day. I stoutly encourage everyone to hunt as often as the chance arises. What I'm trying to say is, don't get the blues if you don't always connect on the first day, and don't think your chances have all slipped away. You may have to walk a little more and hunt a little longer during late season days, but you just may have the best hunt of your life. The fun and excitement of opening day is great, but there's another brand of satisfaction that comes from outsmarting a buck when there's just the two of you.



*All the Other Deer Hunters From This Southwestern Pennsylvania Village
Went Afield in the Daytime. Why Was One Old Man a . . .*

SATURDAY NIGHT RIFLEMAN?

By George Sura

A SIGN advertised feed and hardware for sale. It was a Somerset County mining town store where men would gather to talk. A smooth board covered a long radiator serving as a visitor's seat and was usually warm on both sides. When the radiator was full, there was always a nail keg seat for those who chose to stay and talk hunting.

Behind a high counter a black, open-faced showcase displayed the latest guns and rifles. I remember the place as it was during the difficult, depression '30s.

People had unwanted time on their hands. Work and money were scarce. But somehow most of the miners who stopped at the store managed their annual deer license and, at times, a new rifle. Lever action rifles were popular. So was the pocket watch, the round-nose hunting bullet and red flannel shirts on Saturday night.

Coal stoves and wool underwear were depression trademarks. When the nation needed coal, the miners worked deep mines beneath mountains. When the country warmed—they hunted and fished the mountains they mined.

Riflemen of that era couldn't afford the luxury and advantages of year-round target shooting. From the little store many bought ammunition by the round. Some harvested a buck deer every season, never owning more than one box of cartridges in a lifetime. A rifle scope was an unknown gadget found mostly in magazines and seldom on rifles.

The store became a meeting place for hunters. During the season bucks were weighed on the feed scales and

each hunt relived on the radiator. As a youngster I listened to many of the scrub oak tales while the store filled with smoke and a tolerable form of profanity.

Most of the stories have now been forgotten, along with the men who told them. But late one Saturday night, just before Christmas of 1937, an old man whom I shall always remember etched a lasting impression in my mind of a man's love of rifles.

Open Rumble Seat

Through a faintly lighted window decorated with game specimens and leaves, I watched the man slowly emerge from a battered automobile driven by his son. It was snowing and the picture of an open rumble seat being filled with snow still remains.

Wobbling toward the door, the gentleman leaned heavily on his cane. Several Saturday night regulars warmed the radiator—and their rifle barrels—all over again. When the man entered the store a respectful silence stilled the room.

In a very salty style the gentleman immediately released a few chipper remarks and the group responded in unison to his jokes with kind but forced laughter.

He wasn't impressive on the surface yet the man seemed to command instant attention. Passing the winter evening by mixing spikes in nail kegs, a nine-year-old's trick that irritated my father's proprietor ways, I listened and watched as the old man unleashed a yearling spirit. At times he aimed his conversation in my direction. I tried to appear mature and would nod approval to his talk of rifle knowledge.

After several minutes of jokes he demanded a new Winchester rifle. He was quickly served a slightly greasy Model 94. Working the action briskly, the now serious salt pulled the little carbine to his shoulder and panned about the room, calling "Bang" in an almost foolish fashion. The men watched closely and encouraged further demonstration, and again the dry run exhibition took place.

The indoor rifleman manhandled the rifle terribly. As I watched him fingerprint the slick blue barrel, it occurred to me that were I to mess up a new rifle like that, I would have received a serious reprimand. It was my job to remove fingerprints from the rifles and guns after customers had examined them. But it didn't seem to bother my father, and he soon produced a Remington pump for the man's examination.

Sitting there on the radiator with the Remington in his lap, the man toyed with the rifle's every detail. He then proceeded to tell cracker barrel yarns, holding a captive audience until long after regular closing hours. Finally he handed the rifle to my father, saying: "I think I'll wait awhile. I'm not so sure these round-barreled rifles are everything you say they are."

A toast was immediately proposed to the man of the hour and a sealed bottle of season cheer was opened for the event. Every man in the room filled his glass with a magnum charge of tribute and all mustered a lusty bravo. I remember exercising a boyish

imagination and wondered if the man might be one of the last Rough Riders. If he wasn't, he had to be somebody equally famous to deserve the attention.

Rapping his hickory cane against the radiator's pipes, the man then announced he was leaving. His son, who had remained quiet through it all, quickly opened the door and helped his father to the Ford coupe. The vehicle faded in the night, its rumble seat nearly full of snow.

Soon thereafter the gathering broke up. The heavy smoke remained as my father placed a worn cash bag in the game pocket of his hunting coat. He flicked out the lights and gave the heavy door a lock-rattling check. An old-fashioned Saturday night had come to an end in the Pennsylvania mountain town.

As we walked home in the snow, I asked who the man was. Not being able to associate the name with prominence, I then asked why so much attention was given to an unlikely business prospect.

"He's been in before," came the tired reply. "He enjoys handling rifles, and at one time he could get more out of a Winchester than any man I know. And I like playing the game, too."

"What game?" I pestered.

"Why, the man is practically blind, boy. He can't see the rear sight. This was his deer hunt and we wanted him to enjoy it. Someday you'll understand."

Now, I think I do.

Fur Sales Top \$300,000

According to a report compiled by the Pennsylvania Game Commission, raw furs purchased by dealers during the 1967-68 season were valued at \$303,210.96. As usual, muskrats led in total value, with a total of 245,422 pelts sold at an average price of 79c for \$194,309.21. Beavers were in second place, with 2868 sold at \$15.12 each, average, for \$43,375.25. Other furs listed were raccoons, 24,662, \$1.72, \$42,401.32; minks, 2237, \$5.88, \$13,151.56; red foxes, 2450, \$2.88, \$7060.20; gray foxes, 1187, \$1.39, \$1646.75; opossums, 2591, 32c, \$833.52; skunks, 481, 61c, \$295.45; and weasels, 277, 49c, \$137.



HAWKS *across* *Pennsylvania*

By Ron Jenkins

Rough-Legged Hawk

(*Buteo lagopus*)

THIS GREAT HAWK is one of Pennsylvania's winter visitors but since it does occur in our state with regularity, I will classify it as a Pennsylvania bird. Wildlife which does occur in the Commonwealth becomes a resident while here, and as such falls under the protection of the Pennsylvania Game Commission.

A rough-legged hawk will often stay well into late spring before starting a journey to the Far North where it makes its home, and at first glance resembles a red-tailed hawk. However, they are different in color and the rough-leg appears more bulky than a red-tail because of its ample feathers and large wings.

Not easily alarmed by man, rough-legs may be approached rather closely. In the treeless Far North, hunting and perching areas are different than here, so you will see them perched in low places such as on fence posts or the low branches of smaller trees. Their favorite hunting hours are in the evening as the light of day is fading, or on cloudy days. You also might find them hunting during a full moon when snow cover helps to brighten the night. I have at various times observed them on fence posts during heavy snowstorms, apparently watching for mice.

Rough-legged hawks are easy to

recognize on the wing. Their wings are very large, broad but tapered, and have a definite "wrist mark" on the underside near the base of the primaries.

Almost half the length of the tail feathers is white—much more so than the white rump patch of marsh hawks. When hunting over a field, rough-legs will hover over a spot in the manner of sparrow hawks, their great wide wings beating rapidly in short strokes. Then, dropping in stages, he will suddenly make his final plunge on a mouse or rat.

Rough-legs are extremely beneficial and feed to a large extent on mice. Their principal food in their northern nesting grounds is lemmings and mice.

Rough-legged hawks nest in the northernmost regions of North America, principally Alaska, Northern Canada, Newfoundland and Labrador. The nest is a large bulky structure placed in the tops of trees, where available, but usually on ledges and cliffs. Four to six greenish-white eggs are laid in June. After four weeks, the young are hatched and soon become fuzzy balls of thick white down.

The young hawks are fully feathered and flying in approximately 30 to 40 days. When winter comes to the arctic, rough-legs come south into Pennsylvania for a few months of good



hunting. They return north in the spring. For four years I have observed several rough-legged hawks in the same localities—and each year they seem to stay a little longer before returning to the north. None has been banded or marked in any visible way, so I can't determine if they are the same birds year after year. Still, think of the marvel of that journey, if each were the same bird successfully coming to Pennsylvania for four years in succession.

Feathered to the toes and beautifully marked, rough-legged hawks are

handsome in appearance. They seem quite willing to get along peacefully with humans. Of course, they don't see too many humans in their native land, but I, for one, invite them to catch all the mice and rats they can handle while they're here.

When rough-legged hawks visit Pennsylvania during the coldest winter months, one may be seen from your car as you drive. Carry your binoculars so you can stop and observe him this winter. He is one impressive individual you can note in your bird watcher's handbook.

Book Review . . .

Nature in Miniature

Some men look at the stars and dream of infinity—an unreachable infinity. Others—a few—scoop a handful of muck from a swamp and rejoice in knowing they hold a universe in their palm. One of the latter is Richard Headstrom, author of this fascinating book, which is essentially a detailed guide to the microcosmic residents of the world beneath our feet. Here, with only a cheap magnifying glass for equipment, he shows us how to tour a region completely unknown to most. After dividing the book into twelve sections, one for each month, he examines many of the phenomena common to that time. For instance, in "January" the buds, etc., of numerous trees and shrubs are described, while "February" brings observations on water insects, "March" has early wild flowers, beetles, butterfly anatomy, snake scales, etc. By the time "December" has passed, hundreds of tiny life forms have been studied in detail. And as mentioned above, it's fascinating. (*Nature in Miniature*, by Richard Headstrom, Alfred A. Knopf, 501 Madison Avenue, New York City, 1968. 425 pp., \$10.)

Going Deer Hunting?

If you are—and it would be strange if you weren't!—here are a couple of suggestions to keep in mind.

First, give some thought to hunting in agricultural areas where farmers have reported crop damage due to deer. You can help alleviate their problem and at the same time bring home the best-eating venison in the country. More of it than on the average mountain deer, too, as crop-fed deer grow big and tend to sport big racks.

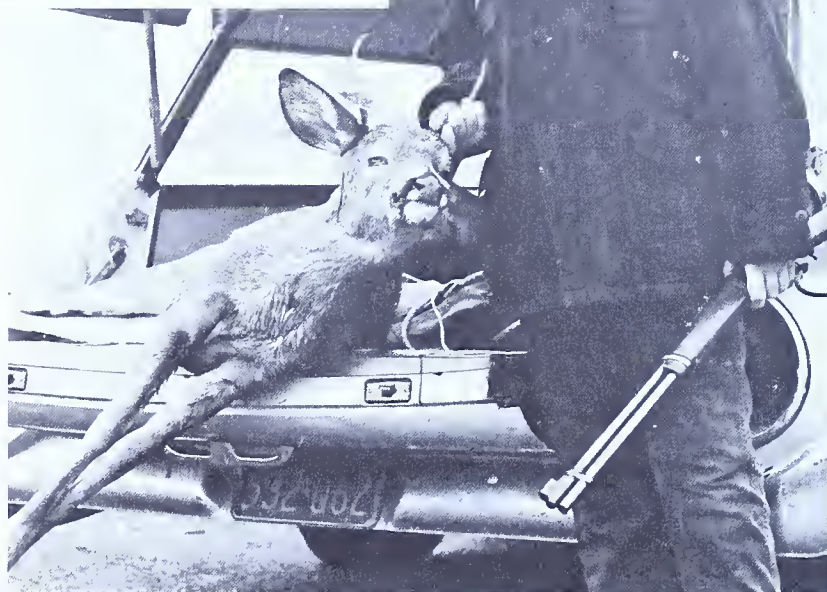
Second, if you are going to a mountain camp, be certain your family knows the camp's name and its exact location. Each deer season, some emergency makes it necessary for the State Police or a Game Protector to find a number of hunters and tell them to return home immediately. This is an almost impossible task if the family cannot pinpoint the hunter's camp.



THESE TWO BEAUTIFUL
Creek Valley, Dauphin
McNear, of Harrisburg,
a 10-point.

Pennsylvania

THE WHITE-TAIL
Pennsylvania's
trophy that sends the
hunters to the mountains,
ber, makes them
suburbia and the big city.
can slowly congeal.
Tioga County deer
big-racked buck will
turn *completely* into
dreams fulfilled and
account," that is!)
in the coming year
only spurs their desire
which is fine, for
hunting is all about



TIM JUSTOFIN, of Sugarloaf, top, proudly
displays 12-point buck—his first deer. Above,
Steve Tirpak, Glen Lyon, bagged a spike
for his first. Big 10-point, below, was taken
by Roy Leininger, R. D., Reading. It
weighed 220 pounds.





... were taken in Fishing
in 1937 and 1938 by H. K.
... is a 13-point, the other

Whitetails

... ER is without a doubt
... game animal. He's the
... of a million Keystone
... woods every Decem-
... comforts of split-level
... of television so they
... dawn darkness of a
... against hope that a
... their sights before they
... of ice. Many see their
... with a story (a "true
... told a hundred times
... unsuccessful. But this
... to return next year . . .
... it's what Pennsylvania



HURLEY MENSINGER, of Nuremberg, above, with his 8-point, his first buck in 60 years of hunting! Jeep-load of bucks taken last opening day, left. Below, Chet Frystak, of Montrose, with heavy-tined 11-point buck taken near his home.





FIELD NOTES



Calling John Behel

CENTRE COUNTY — Recently I received a phone call from a young man who stated he would be 12 years old next year and that he planned to go hunting. I told him about the new law that would require him to have a hunter safety course before he could buy a license. After I had finished explaining the law to him, he stated he would have no trouble passing the test since he had been reading about gun safety for years. The conversation finally led to my asking him to name some of the safety rules when handling guns. He thought for a minute, then said, "Don't load your gun in the house or barn. Use only a 302 caliber or a 15-gauge for hunting. Always hunt with one friend, so if he shoots you he can help you home." After I got back on my feet I asked if he could think of any more safety rules and he stated that there were others but none of them were important. I suggested that he show up at the next hunter safety course to learn some of those "less important rules." —District Game Protector D. Sloan, Bellefonte.

Determined Bowman Gets Results

MIFFLIN COUNTY—During archery season I checked a large 9-point buck taken on Farm Game Project 210 in Mifflin County by Charles E. Gross, of Lewistown. Hog-dressed and weighed at the Coble Locker Plant in Lewistown, the buck tipped the scales at 204½ lbs. Mr. Gross shot the deer at 8 a.m. He trailed it and at 10:30 a.m. he shot it again. He trailed it until 12:30 p.m. when he shot it with the third arrow. From point of first shot to final shot was approximately three-quarters of a mile. Congratulations to Charles Gross for a determined and complete tracking effort and the recovery of one of the finest animals I have ever seen.—District Game Protector J. Moyle, McVeytown.

The Answer to Accidents

SUSQUEHANNA COUNTY — To test the efficiency of Hunter Safety Training, we selected Jeanette Soth, an 11-year-old girl with no hunting experience, and asked her to take the course. She consented, promising to pay strict attention, and enrolled in the next class. Under the instruction of Constable Allyn Booth she received the prescribed training, including safe handling of sporting arms, hunter's responsibility, sportsmanship and conservation. At the conclusion of the course this young lady passed the written test by answering 37 of 40 questions correctly, proving that much can be learned by a non-hunter by merely attending our 4-hour classes.—District Game Protector D. G. Day, Hallstead.

Predictions from Parr, the Poet (?)

WARREN COUNTY—

The squirrels are moving on the ground
Nice flocks of turkey are seen all around
A few bear have been seen, even though they are shy
This year the deer are in great supply
Many grouse are seen here and there
A person seeing rabbits is not quite so rare
A man can look forward to fun and some joy
Having a day in the field, with his dog and his boy.
—District Game Protector D. C. Parr, Tidioute.

Only a Year Off

YORK COUNTY—A gentleman recently called me and proceeded to give the Game Commission a going over for, as he said, opening the deer season November 27, a Wednesday this year, and small game on October 28, a Monday. I couldn't get a word in edgewise until he was finally talked out. I then asked him to please check the date on the Hunting Digest that he had in his hand. He apologized profusely when he discovered he was reading last year's regulations. —District Game Protector R. L. Yeakel, Red Lion.

By Any Other Name . . .

BRADFORD COUNTY — Dave Gower, president of the Sayre Sportsmen Club, got quite a chuckle when two little girls came up to him at the club's field day celebration and said, "Excuse me, Mister, but where can we find the big angleworms?" The "angleworms" turned out to be the snake exhibit being featured.—District Game Protector A. D. Rockwell, Sayre.



What an Appetite!

FOREST COUNTY — A snake hunter from a southwestern county stopped in to show me some rattlers he had picked up the other day, and as we were talking, he told me of a large black snake he had as a pet. When he caught it, he noticed something sticking out through the skin. Examination showed several porcupine quills sticking out. He took a pair of pliers and pulled them out as they came through, and the snake eventually digested what must have been a small porky.—District Game Protector D. W. Gross, Marienville.

It All Adds Up

CRAWFORD COUNTY—As I was talking with Carl Rose, of Knox, the other day, he told me about their winter project—building 100 more bluebird boxes. He said the bluebird population this summer was higher than in the past, and all but two or three of the many boxes they put up were successfully used by bluebirds this past summer. One of the boxes not used by bluebirds was used by a chickadee who reared 10 young. It is good to see the time and interest that some people spend in helping nature produce.—Land Manager J. Hyde, Townville.



All Wrapped Up

SCHUYLKILL COUNTY—While visiting Deputy Game Protector Harold Troy in Nuremberg, he related the following story. A safety zone co-operator's wife in North Union Township noticed that several of her baby's diapers had mysteriously disappeared from her clothesline. Upon investigation she saw several white objects protruding from holes in a walnut tree nearby. The red squirrel family living there had provided their young with diapers for the cold winter months ahead.—District Game Protector F. M. Spancake, Pinc Grove.

Onward and Upward

ROSS LEFFLER SCHOOL OF CONSERVATION—Upon completion of our field trip to the Goose Management Area at Pymatuning, I believe all the students from the Training School are hoping for assignments to waterfowl hunting areas. As for myself, I was amazed at the number of ducks and geese in the area. A flock of 3000 geese rising from a field of buckwheat is really a sight to behold! Until this year I have not been a waterfowl enthusiast, but my eyes have been opened to a truly challenging sport.—Trainee Edward N. Gallew.

Better to Buy Lunch

BEDFORD COUNTY—While having breakfast in a restaurant one morning last month, I was approached by a gentleman who, seeing my uniform, asked if I was a full-time Game Warden. Assured I was a full-time Game Protector he proceeded to tell me of a @#%#* "Game Warden" in another county who had confiscated his rifle (in which he had invested \$180 for sporterizing) from his son last year. He further stated his lawyer had advised him there was no such law. At this point I advised the gent I was the "Game Warden" from that county (recently transferred) who at 11:30 one Sunday night arrested his son and two companions for using a spotlight and 7.7mm Japanese rifle (military stock had forearm cut down, rubber recoil pad, sling and inexpensive 4X scope added) to shoot at a doe deer. This man had been informed five times previously that the only way he could get the rifle back was to submit a sealed bid when confiscated firearms were to be sold. Again he was so informed. He again stated he had \$180 in that rifle and if I was in Harrisburg when they were sold he would pay as much as \$25 to get it back. One of the three jacklighters, upon being questioned that night, said he wanted to kill a deer so he could take a venison sandwich to work with him, as he was tired of other meat.—District Game Protector T. C. Barney, Huntingdon.

When You Gotta Go . . .

LYCOMING COUNTY—The gray and black squirrels have been moving out of the area due to the food shortage. I have talked to three individuals who have reported seeing large numbers of them crossing the roads at night. I had never heard of them traveling at night.—District Game Protector P. A. Ranck, Williamsport.

Surprise for Everyone

HUNTINGDON COUNTY — On September 15, Deputies Harvey Fouse and Jim Hodge were in a canoe on the Raystown Branch near the mouth of Shy Beaver Creek. They were trying to determine the amount of waterfowl and animal loss as a result of an oil line break. The break had occurred near the creek and had affected all aquatic life within the creek and several miles of the Raystown Branch. One of the men noticed a large white sucker lying belly up in about five feet of water. Thinking the fish was dead, Harvey touched it with a paddle in an effort to bring it to the surface so he could dispose of it on the river bank. When the paddle touched the fish, the sucker made a wild dive for the surface, leaped several feet into the air and landed in the canoe.—District Game Protector R. D. Furry, Huntingdon.



Duck in Its Dotage

BUCKS COUNTY—How old does a mallard duck live to be? Just recently I was informed by one of the 1-2-3 Safety Zone Cooperators in Bucks County, William (Dixie) Brillman, that he and his wife had a mallard that lived on their farm for 25 years. During the last few years the old drake failed to develop its male plumage and most of the time resembled a hen.—District Game Protector E. F. Bond, Doylestown.



The Hard Way

LUZERNE COUNTY—On the first day of archery season, four young hunters asked me if I wanted to see a rattlesnake which they had killed in the Noxen area while hunting for deer. They stated that one of the boys was wearing his brother's rubber boots, which were several sizes too large. This was fortunate for him, because the 48-inch snake struck the youngster at the toe of the rubber boot and hung on while he ran down the road to his buddies, who killed the snake.—District Game Protector E. R. Gdosky, Harveys Lake.

Reptile's Revenge

SNYDER COUNTY—Ernest Leitzel reports that when his son went to check a large bird floundering on the ground he found a red-tailed hawk with a five-foot black snake coiled about its neck. The snake succeeded in killing the hawk before it could be removed. — District Game Protector K. W. Dale, Middleburg.

Unusual Road Kill

BRADFORD COUNTY—On September 27, I received a call to pick up a beaver that had been found dead in a man's front yard. This is the first one that I've had hit by a car.—District Game Protector D. C. Beach, Towanda.

Turnabout

JUNIATA COUNTY—Just before dark I was patrolling along a deserted mountain road on a still September evening. The woods were quiet. It was a warm, relaxing day and I was enjoying the scenery. I did not realize it, but I was within 25 feet of a carbide gun which had recently been placed along the edge of a field to scare deer. When it exploded, I'd have sworn I was shot! It took an hour to get my heartbeat back to normal. These guns are not only good to scare deer, but they do a pretty good job on Game Protectors.—District Game Protector R. P. Shaffer, Mifflintown.



Dust Pan Next?

CRAWFORD COUNTY — P. A. Pritchard, of Cleveland, Ohio, owns a hunting camp in Sparta Township on the Crawford and Warren County line road. He has a rather unique woodchuck problem. A woodchuck came onto his back porch and dragged off a small rug. A week later the chuck returned and carried off a broom. The rug and broom were found by Bill Kroski in the woodchuck's burrow, which was located underneath the back porch. It must be a female woodchuck—the tidy housekeeper type.—District Game Protector W. E. Lee, Titusville.

Different Viewpoint

ROSS LEFFLER SCHOOL OF CONSERVATION—I was surprised at the number of people that attended the School of Conservation's open house on September 15. One youngster was so interested in the place that he wanted to see the school from above, so he attempted to climb the radio tower.—Trainee John A. Lukas.

Glad He Wasn't Hunting

MONROE COUNTY—I received a call recently from a New Yorker who was staying at one of the local resorts. He asked me if it was legal to keep deer in captivity. I told him no. He then went on to tell me about a fawn deer in a yard down the road with a harness on it and red ribbon on its neck. I went to check and found a brown goat (the family pet) in a harness complete with red ribbon.—District Game Protector H. P. Goedeke, Mt. Pocono.

Just Call Him B-D-B

BEDFORD COUNTY—Just another title to add to the growing list of names that Game Protectors are called—repeatable names, that is. A lady that spends her summers in Bedford County was recently talking to a friend of mine and my name came up during the course of the conversation. The visiting lady couldn't remember my name and stated, "You know who I mean—the Bee, Deer and Bear man."—District Game Protector C. J. Williams, Bedford.

We Wonder, Too

BLAIR COUNTY—I have often wondered what a psychologist would find if he were to examine those persons who kill deer in and out of season and let them lie to spoil.—District Game Protector P. Miller, Bellwood.



CONSERVATION NEWS



Pennsylvania Still No. 1 Hunting State



ANYONE having the slightest doubt about Pennsylvania's unchallenged position as the No. 1 hunting state in the nation should take a good look at the recent report on hunting license sales for fiscal year 1967 from the U. S. Interior Department's Bureau of Sport Fisheries and Wildlife.

Actually, the license sale figures in this report embrace Pennsylvania's 1966-67 license year. The 1967-68 license year will end August 31 and final compilation will be completed soon.

But Game Commission officials, although elated that the federal bureau again supports Pennsylvania's claim to being the top hunting state, warn that storm clouds already on the horizon could wash away many advances already made by hunters in the Commonwealth.

The federal report breaks down hunting license sales into five cate-

OUTSTANDING BUCK shot by J. W. Mathieu in Bucks County during 1967 season. Antlers have 24" spread, deer weighed 184 lbs.

gories. Pennsylvania led by a wide margin in three of these, and was just barely edged out of first place in the other two, because separate licenses, permits and tags are not required for the various species in Pennsylvania, as contrasted to numerous other states.

There were more paid hunting license holders in Pennsylvania than any other state; the Keystone State led the nation in total sales of hunting licenses; and Pennsylvania's income from the sale of hunting licenses was greater than any other state's.

In 1967 there were 995,190 paid hunting license holders in Pennsylvania, an increase of almost 40,000 over 1966. (A paid license holder is one individual regardless of the number of licenses he may purchase.) To-

tal license sales in Pennsylvania came to 1,467,776, an increase of almost 173,000 over the previous year. Pennsylvania's total income from the sale of these licenses was \$6,219,112.

In commenting on the federal report, Game Commission Executive Director Glenn L. Bowers said, "Pennsylvania offers sportsmen some of the best diversified hunting recreation in America, and we intend to keep it that way if at all possible.

"But despite the growing importance of hunting, both in the economy of the state and as a wholesome outdoor recreation, there are forces at work which could very well ruin our program and wipe out many of the vast strides made in conservation over the past few decades."

Bowers said, "Hunting is big business in Pennsylvania. We are number one, and over the years our sportsmen have paid the bill to bring about our top ranking. But if the proponents of strict gun control are permitted to succeed in their efforts, there will be a definite destruction of interest in hunting as a sport.

"Unrealistic and unreasonable gun control measures now being advocated in some quarters will only serve to diminish active participation in hunting by sportsmen who will refuse to submit to further regimentation envisioned by anti-gun forces."

Bowers concluded, "Diminished interest and participation in hunting could well wreck our carefully constructed conservation foundation."

SOME OF THE 2200 SIXTH GRADE students from Lycoming County who attended the fourth annual outdoor conservation program at the Consolidated Sportsmen's club grounds in September. Fourteen instruction stations were conducted by the Game Commission, Fish Commission, Department of Forests and Waters and local sportsmen. Here, DGP Paul Ranck shows how to set trap. PGC Photo by Roy Trexler





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



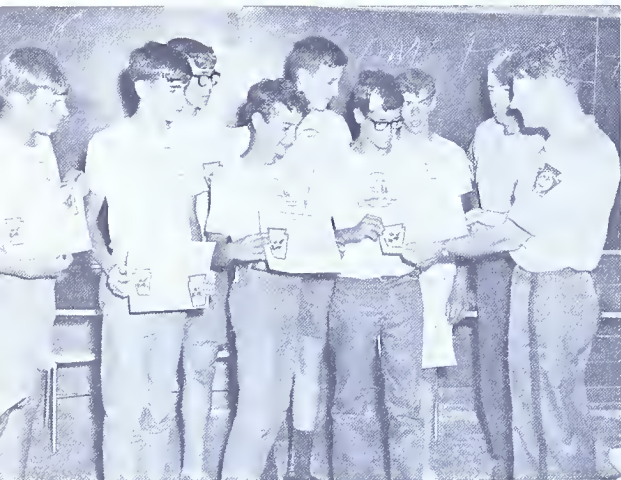
Twenty-First Junior Conservation Camp

TWO HUNDRED AND FIFTY boys attended this year's Junior Conservation Camp at Pennsylvania State University's forestry camp in the Stone Valley recreation area. The twenty-first such annual program, it was made up of four two-week sessions. The boys, who are sponsored by clubs from the eight Pennsylvania Federation of Sportsmen divisions, received training in conservation practices from state and federal agencies, representatives from Pennsylvania State University and the federated sportsmen.

Firearm handling, shooting, predator calling and trapping, natural history and Game Commission policies and programs were presented by the Pennsylvania Game Commission. Twenty-four officers participated.

The program gives all boys an opportunity to participate in range firing under competitive conditions. Firearms that have blown up or been involved in accidents due to careless handling were shown and discussed by District Game Protectors in connection with safety talks.

The camp is affiliated with the Na-



A FEW OF THE 250 boys who attended Junior Conservation Camp are shown receiving their Wildlife Conservation Awards at the end of the program.

tional Rifle Association, and all shooters were given an opportunity to qualify for NRA shooting awards. Another part of the program included a panel discussion on field problems of the Game Commission and the sportsman. Campers also had an opportunity to ask questions on the Game Law, and Paul Failor, wildlife specialist with the Game Commission, gave a complete fly-tying demonstration.

The popular bow hunting program was updated by outstanding instruction from expert archers, including Lee Warner of Marysville; Stan Williams of Berwick, vice-president of the

Pennsylvania State Federation of Archers; and Dennis Butler, from the Department of Forests and Waters, all of whom attended the recent NAA-approved archery instructor's school at Penn State. Most students attending the Junior Conservation Camp participate in Pennsylvania's bow hunting season each year, so this expert instruction is valued.

Instruction of great interest and importance to all campers was given by Don Kepler, physical education instructor at the university. His subject was survival methods. Here, students learned how to get along in the wilderness under adverse conditions. The course included instruction on what to do when lost, and a field trip helped each camper learn to use a compass in reaching a destination. Mr. Kepler expertly demonstrated how a compass eliminates confusion and saves many needless miles of walking.

No camper goes away hungry, for the food at Junior Conservation Camp is excellent and plentiful. Charles W. Stoddart coordinates this section of the program, and takes over to provide one of the finest meals of each session—barbecued chicken.

Upon successful completion of the training, all campers received the Conservation Award. This is presented in recognition of outstanding conservation work.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



Camping With . . .

The Tent-Trailer

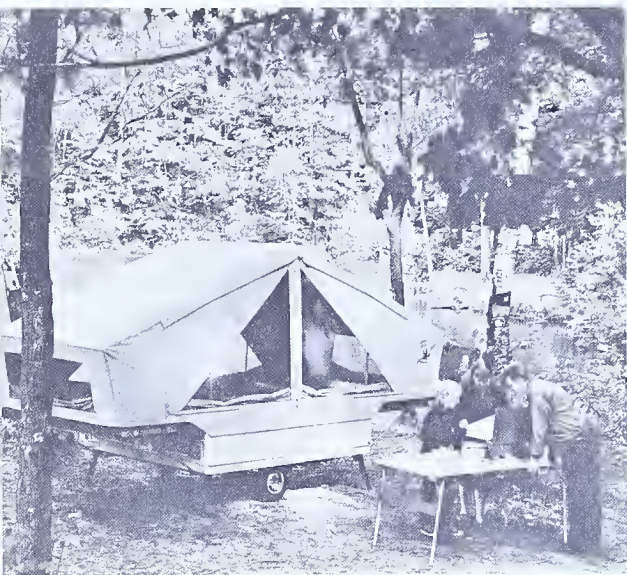
By Les Rountree

WHAT KIND of outfit should the first-time camper select for his initial family adventure? With the vast choice available today, the cautious writer would start by saying, "Well, it all depends," and then go off onto several tangents, leaving the reader with the job of making his own selection. Admittedly, this is probably the best way to handle the question, but I'm not a cautious writer, so here goes. I strongly believe that the best family device for any beginner is the pop-up trailer. There, I've said it and I mean it.

The reasons for this selection are many and I'll try to justify them. First of all, they're easy to haul and require no more than a bumper hitch (although a frame hitch is better), which is rentable. In fact, the whole rig can be rented, which may be a good idea in case you decide that camping is not your thing. The more deluxe travel trailers offer very comfortable

living for neophytes, but they require a bit more trailer pulling savvy than can be learned over a weekend. The most popular pop-up campers offer a low profile, do not require special mirrors, weigh very little, and parking one can be mastered with an hour's practice.

The soft-top trailer is easy to erect and some of the recent models require nothing more than ten or a dozen spins with a crank and you're ready to move in. If you discover that your campsite is not exactly level, some adjusting is possible by simply moving the trailer a bit by hand. Practically all of the recently built campers are well balanced and can be manhandled quite easily. Try this with most travel trailers and you become a candidate for double hernia. With the simple tent, although many of them can be set up in seconds, you still have to go through the ritual of ditching around it and a slight ad-



TENT TRAILER folds compactly for easy towing, opens quickly to provide good living space for hunters and family campers.

justment with a family size tent can be a major operation.

The foam rubber mattresses which have come to be almost standard in most campers are comfortable. If the temperature is not cold, ordinary light wool blankets will be found suitable. If you have sleeping bags, fine, but remember we're talking about that beginning camper who has yet to acquire the garage full of gear that you pros have gathered over the years.

Assuming that you take my advice and buy, rent or borrow a pop-up camper, the next step should be a session with the instruction booklet. Read it thoroughly and then have the salesman or owner show you how to hook it up and hoist the top. Most are quite simple to operate, but they're all a bit different. It's much better to find out exactly how to do it before you reach the first campsite and can't remember just what that little thingamajig over there is for. The next step is a trial run. I can't stress this too strongly. Set the camper up in your driveway or backyard. Have the kids and your wife help you. It's good planning to have every member of the

family know how to raise and lower the top. A sudden rain later on will prove the value of this. Make sure you get your camper a few days in advance of your trip. Become familiar with it. The best possible thing to do is spend a night in it, solving all the little problems that crop up. You'll be surprised how much this "milk run" will help you later on.

Stow Gear in Trailer

You'll be able to stow at least half of the gear for four people in the trailer itself and the car trunk will take care of the overflow. I recommend carrying the heavier items in the trailer rather than in the trunk of a sedan or the rear end of a station wagon. If the trailer baggage is distributed evenly the trailer will ride on an even keel and not press down excessively on the hitch. If most of the weight is carried in the trunk or the fore part of the trailer, it bears too heavily on the hitch and the rear axle. When packing the trailer, place the heaviest items over the wheels and move toward both ends with correspondingly lighter gear. Pack soft material such as blankets or sleeping bags around the hard goods for padding and pack as solidly as you can to avoid shifting. As you travel, the load tends to slide toward the fore end of the trailer. A packing job that consists of just tossing everything in usually winds up as a tangled mess when you arrive at the campground.

Most of the pop-up campers on the market today are designed for four people. To be perfectly honest, it becomes a bit crowded for more to share the space, but it can be done. The ideal way to accomplish this is by



means of an "extra room" tent attachment. This option is offered by most manufacturers at a reasonable cost and it really does add a lot of usable space. Cots or air mattresses on the ground can accommodate up to four additional people.

Tarp Worthwhile

Even if you don't need the extra sleeping room, the tent addition or a simple fabric or tarp fly is a worthwhile addition for sun or rain shelter. You can cook under it or use it as a sitting porch. If you buy one of these things, make sure it has metal or plastic grommets for attaching to tent or camper. The extra tarp will turn out to be a handy addition if you do any station wagon camping too. It doesn't take up much space and can be a most welcome shelter when you have a camp stove set up on the tailgate.

With the newer hardtop pop-up campers there isn't much a fellow has to know to get set up. Most of them have a crank arrangement and all you have to do is wind it up and fasten the snaps. With some of the soft tops, however, there is an assortment of aluminum poles and struts that form the fabric framework. It's usually not too difficult to figure out how everything goes together, but here's a tip that I wish I had thought of. A camper we met in Maine a couple years ago had the answer to this one. He color-keyed the pieces with circles of plastic tape wrapped around at the joining point. There was never any question which piece fitted into another. While we're on this subject it always seemed to me that the makers of these rigs would do the owner a great favor by attaching a plate to the trailer listing the steps necessary in erecting these pop-ups. I'm sure that any experienced camper wouldn't be caught dead sneaking a look at these directions, but it sure would help the first-timer . . . or the old-timer with a brand-new trailer.

Aiming at the beginner again, we

mentioned in the first part of this rambling that the pop-ups offer a low silhouette and are easy to pull and manage. This is another feature that makes these outfits great for the newcomer. You may eventually move up to a travel trailer, but until you do, the smaller pop-up chassis offers good basic training. Pay attention when your hitch is being installed and listen and watch as the salesman or serviceman is showing you how to hook up and attach light connections and safety chain. Abide by his recommended air pressures for trailer tires and operating suggestions, and then have a go at driving the outfit.

With most modern automobiles, the weight will be almost unnoticeable with an empty trailer and trunk. On any vehicle over 150 horsepower, you'll hardly know it's there. Even when loaded the extra gasoline needed to pull these lightweights will be insignificant. But—and here is the biggest problem—don't ever forget that the trailer is back there! The first



LIGHT WEIGHT of pop-up trailer makes it easy to pull at reasonable highway speeds, but driver should always remember that it's there!

half hour that a person pulls a trailer he can't refrain from looking in the rearview mirror every two seconds . . . just to make sure it's still with him. Then complacency sets in and the driver tends to become smug about the whole matter and decides that pulling a trailer is no more diffi-

cult than shaving. It really isn't but, like shaving, if you forget for a moment what you're doing the results can be disastrous. I'm sure we've all seen a camper or travel trailer on its side or in some other unnatural position along a highway with the driver standing nearby looking a bit perplexed. He's not real sure what happened, but the vacation trip has been dampened, if not ruined, and he's probably not more than 100 miles away from home.

Slow Down!

You can't drive as fast with a trailer in tow as you can with a bare car, particularly on high speed thruways. Tone down the speed. Fifty-five mph should be just about tops. This may sound like creeping to some of today's highway chargers, but that's about all you can manage and do it safely. If a crosswind is blowing you will be affected considerably. The low profile camper will not be as bad as the high travel trailer, but some extra caution is still necessary. The simple

act of passing a car or dropping off the highway for a rest stop requires more driving skill with a trailer than with an unadorned auto. Don't crowd the car you intend to overtake and when you're sure the open highway is adequate for a pass do it smoothly. Turn out with a gradual sweep, accelerate cleanly and pull back in with a gentle arc *after you are sure your trailer is well in front of the other car*. The snap-out, snap-in passes that you see the big boys make with their tractor-trailer rigs is a maneuver that is eventually guaranteed to cause embarrassment or worse. When dropping off the highway onto a lower berm, slow down, after signaling, to a maximum of ten miles per hour. Drop off one wheel at a time, at a bit of an angle and stop smoothly. Hollywood stops and starts are fine on the drag-strip, but not when you're lugging a trailer loaded with camping gear.

When you do reach your first camping site, it is hoped that you have already tried out your skill as a trailer backer-upper. If you haven't, this too

SIMPLE WAY TO HOUSE MORE PEOPLE is by the addition of an attached shelter, such as this. Even a simple tarp can provide protection.



could become a bit embarrassing. If you have a brand-new camper (and you probably will) it takes a little starch out of your shirt to finally have to ask for help in getting the blamed thing backed into a hole that seems to be at least three inches too narrow. Most camping areas are generous about site dimensions, however, and a little practice in the neighborhood alley or parking lot will make you a pro. It would be impossible with words to turn anyone into a good trailer operator, but there are two basics that should be pointed out. First is: if at all possible try to line up trailer and car perfectly straight before attempting to back up. By this, I mean have the trailer directly aimed the same way the car is. By doing this, the effect of turning the wheel will be instantly seen as you look back. And, for heaven's sakes, look back! Don't make like a cool cookie and try to navigate by looking back through the rearview mirror. Unless you're a real genius this is another stunt that's better left to the professional drivers. You'll quickly discover that to make the trailer turn to the left you must turn the wheel to the right and vice versa. If you've never tried backing a trailer before this sounds absolutely crazy, but it's the only way it can be done. For your first few tries it's advisable to have a spotter outside the car watching for obstacles. In fact, this is always a good idea.

Once you have the trailer where you want it, if there is any question about the wheels rolling after you unhook, block the wheels with rocks or wooden wedges cut for the job. Trailers have been known to roll right

off the campsite! In fact, it's a good idea to block both wheels with triangular wedges when setting up. It makes for a more stable camp, eliminating excess wiggling when moving about inside the camper.

Many Models

Time was once when there were only about two or three pop-up campers on the market. They were serviceable units, but didn't offer too much luxury. Today, the bushes are full of trailer-mounted tents. They come in dozens of shapes and sizes, not to mention optional equipment. The most popular type is still the fabric-top job, but the squared-off plastic and metal topped models are gaining on them. Kitchenettes, showers, folding tables, built-in cabinets and chemical johns are just a few of the more plush options available. The buyer is limited only by his taste and pocket-book. For the first try, however, I suggest that you start out with one of the more basic units. There are fewer things that could go wrong with them. If you do buy either a new or second-hand camper and decide later that you want to move up to a fancier model, there will always be buyers for your discard.

I earnestly believe that pop-up trailer camping fits very nicely into the modern philosophy of family camping. They offer an extremely mobile base of operations for the ever-moving American vacationist, and they do it economically and comfortably. They are not too plush and, with some fabric for the rain to beat on, still allow the feeling that you are roughing it a bit.

Perspiration Problem

Tree leaves transpire great amounts of water, a medium-sized maple tree sweating as many as 50 gallons daily. This is why trees must shed their leaves in winter. They would die from dehydration otherwise.





By NED SMITH

December in Pennsylvania means only one thing--deer season! There was a time it meant an expedition in an Essex or Model T. Now it's an adventure closer home--but just as thrilling . . .

IN SOME CIRCLES December might be noted for other reasons, but among Keystone State outdoorsmen it is traditionally known as "deer season." And that has been going on for fifty years or more. One of my earliest recollections of the hunting season was the preparations by local nimrods for their annual trek to hunting camps in Centre and Clinton Counties. In an Overland, Durant, Essex or Model T, on the dirt roads of that day, it was an adventure which only the dedicated undertook. Their return was the talk of the town, and we youngsters thought nothing of traipsing from one end of Millersburg to the other to gawk at a sorry-looking buck hanging in someone's apple tree.

While all this was going on deer were becoming increasingly abundant close to home, but except for a few local hunters no one seemed to realize it. I well remember how hard it was for me to convince my grown-up neighbors, a few years later, that I had actually seen deer on Berry's Mountain, just south of town. By the time I was old enough to hunt, however, there were sizable populations of whitetails in practically every part of the state. In small towns and rural

areas nearly every married woman became a "hunting widow" during the first two weeks of December, and that aspect of the picture has changed but little to this day.

Much of the credit for the sport's popularity must go to the quarry itself. There's not a game animal in North America, or anywhere else that I know of, that can hold a candle to the whitetail. In the first place, with reasonable protection it can live almost anywhere. The elk needs extensive forests, the bighorn almost inaccessible mountain ranges, the pronghorn unbroken prairies and foothills. But the whitetail can manage very nicely in either a northern mountain vastness or a five-acre farm woodlot. Instead of suffering from civilization's changes it oftentimes profits by them—enjoying the browse produced by man's lumbering operations, the food plants encouraged by his pipeline and powerline clearings, and the crops grown on his farms.

In addition, the whitetail can take care of its hide remarkably well. An old whitetail buck, veteran of several seasons, has got to be one of the smartest animals alive. His native alertness, backed up with phenomenal

hearing and sense of smell, make him exasperatingly difficult to stalk, and even when surprised he usually does the right thing. When he must, he can cover the roughest ground at break-neck speed and clear the highest windfall with soaring grace. But given a choice he neither panics nor stares in disbelief. Instead, he slips from sight as silently as a puff of smoke. By the time the hunter realizes his quarry is no longer behind that nearby oak where he last saw the flick of his tail, the cagey old buck has put another ridge between himself and the man with the gun.

LONG-TAILED
WEASEL



The only factor that tips the scales in favor of the hunter is the number of hunters abroad, especially on opening day. It's difficult for a deer to move away from one without becoming the target for another. That is why he must not panic. On one occasion I watched a buck carefully thread his way up the opposite mountainside between and around literally a dozen hunters, and not offer a shot to a single one. Many a buck has smelled the rat and slipped back through a drive unnoticed. I've often seen deer merely hustle down over a small bench or move a short distance into the scrub oak until a hunter passed by, unaware of their presence. Twice I have had bucks remain in their beds while I

tramped by within fifteen or twenty feet. Only my turning toward them, quite unintentionally, finally prompted them to make a break for it.

To qualify as a great game animal a species must present a challenge to the hunter. The animal need not be colossal in stature or ferocious in disposition. He need not be beautifully colored or proportioned, or wear trophy horns or antlers. It is not even essential that he be edible. But to be worth hunting he must be alert enough to sense danger, smart enough to get out of it, and adaptable enough to thrive in the midst of it. These things our whitetail does to perfection—and lots more.

December 1—At the rate deer are leaping in front of cars it's a wonder any are left for the hunters. This evening a seven-point buck sailed off a roadside bank and was knocked into oblivion by a car coming down off Peter's Mountain. The car wasn't quite as permanently maimed, but did suffer a smashed hood, fender, grille, headlight, and bent bumper among other things.

Wanting to get some pictures of the deer itself, I arrived at the scene with the local Game Protector, but in the short time it took him to drive down from his home someone made off with the corpus delicti. With the buck season opening on Monday the thief will probably display it as proof of his hunting prowess.

December 3—What a surprise to see a stately great blue heron standing along the river in Millersburg, just above the ferry landing. Admittedly, the weather hasn't been terribly cold and there's been a dearth of snow, but I still assumed all herons had migrated to warmer places where fish and other aquatic creatures are abundant and active.

He stalked slowly along the shoreline, keeping a bulging eye turned toward the water, but apparently saw

nothing edible while I watched. Some minutes later four boys and a dog came bursting around the corner and the big bird rose in slow-motion flight and flapped majestically downriver.

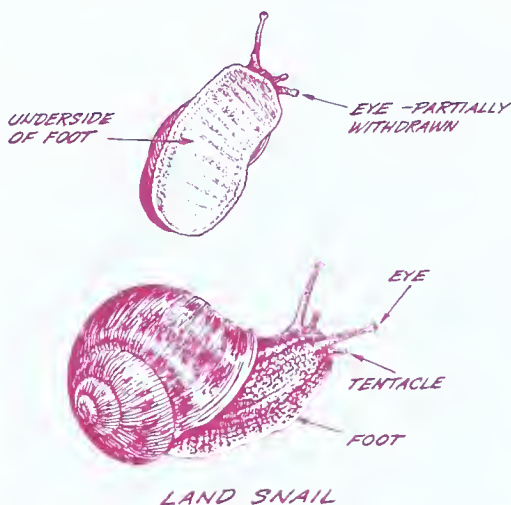
December 4—Some bucks come easy, some hard. This morning I got an easy one. I was a little late getting to the intended place on Peter's Mountain, and had scarcely gotten settled when a doe's head popped up over a sharp rise only about fifty feet away! I could also see the curved back of another deer beside her, apparently feeding on the ground. Why they hadn't heard me approaching is more than I can say.

I had to get a look at that other deer before they spotted me. Scarcely breathing until the doe lowered her head again I quickly slumped to a sitting position to get out of sight. Then, with the rifle rested across my knees in their general direction I waited for them to show themselves in the open little draw toward which they were heading.

Minutes dragged by like hours, but when the second deer stepped into the draw I immediately saw he had antlers—high, symmetrical, and very worthwhile antlers. He stared at me from behind a big tree trunk that shielded his chest and most of his neck. I sweated and waited and kept my fingers crossed. Luckily he didn't recognize me as anything dangerous, and when he stepped out into the open I squeezed the trigger. At the rifle's crack he wheeled and plunged out of sight, but I heard him crash to the ground and found him piled up against a windfall.

It was a long pull out to the pipeline, then down the pipeline to the road in Clark's Valley, but I had unexpected help. An out-of-state hunter saw me approaching and came up from the road to give me a hand—a sportsmanlike gesture I'd have appreciated even if I hadn't been 99 per cent pooped.

December 10—Talk about a busman's holiday! I spent Sunday afternoon hiking around my deer hunting grounds after getting my buck earlier in the week. But it was fun checking the trails to learn which ones had seen the hardest use. Pausing at one place I heard an unfamiliar rustling sound below me and soon spied a long-tailed weasel heading my way. He ran like a hound, nose to the ground and obviously following a scent trail. At intervals he would temporarily lose the trail, and would cast back and forth to pick it up again. When less than forty feet away, the scent apparently disappeared again, for he raced back and forth frantically, sniffing here and there, crisscrossing a small area and poking his little head into holes and crannies between the rocks. At last he seemed to have located the object of his search underground, for he began



to dig with his front feet, hurriedly pulling back dirt and leaves. It struck me as a strange activity for the haughty weasel—digging in the ground—and apparently it didn't appeal to him either. After thrusting his head deep into the opening he gave up the project and scampered up the mountainside without a backward glance. I've often wondered what he was trailing. Possibly one of the little red-backed mice that make their home

here among the leaves and rocks. At any rate it must have been a skinny little critter to have escaped into a hole too small to admit the snake-like weasel.

December 16—Jack told me he saw two hunters near Hostler Trail taking out two does they had shot. One fellow was carrying their rifles, the other was pushing a *baby carriage* containing the two big does. They told him they had stashed the “buggy” in the woods last year and it hadn’t survived the storage period too well. The tires were coming off, the axles were bending, and Jack had considerable doubt that the contraption would hold together until they reached their car. It did, though, because he later saw their wobbly tracks at the East cable, a few yards from the parking lot.



December 19—Late last summer I found a snail and took it home, intending to photograph and release it. We’ve still got it. Apparently it is perfectly contented in captivity, and we’ve found it to be a surprisingly interesting pet. Its home is a plastic candy box with a transparent lid through which it can be observed, especially when it crawls on the inside of the lid on its broad, fleshy “foot.” It’s crazy about lettuce and it

is surprising how rapidly it can rasp large, irregular holes in the leaves with its rough tongue. Unlike wild snails, which withdraw into their shells at the slightest disturbance, our snail has become so accustomed to being handled that it will begin eating immediately after being picked up and placed on a fresh lettuce leaf. It might retract its telescopic eye stalks just a trifle at the first touch, but that is all.

Last fall I accidentally dropped it on the floor while cleaning its plastic house, breaking a small triangular chip out of the shell near the lip. Some time later a flesh-covered layer of material began accumulating in the break, and now it is completely repaired, although thinner and of a different color than the creature’s original shell.

Apparently our snail likes the taste of its plastic roof, for the interior surface is laced with winding trails that have a sandblasted look about them. The plastic doesn’t seem to have a harmful effect though — he’s been doing fine for nearly four months on a diet of lettuce and lucite.

December 20—Over the past weeks I’ve seen several large flocks of redpolls—some must have contained more than a hundred birds. These small finches nest in Canada’s far northern forests and in the stunted trees on the edge of the tundra regions. Normally they winter throughout southern Canada and our northernmost states, but every few years are seen in northern Pennsylvania and less often down our way in Dauphin County. One flock I saw was feeding on evening primrose seeds which peppered the snow. They conversed happily as I studied their sparrowlike plumage accented with rosy caps and, on the males, rose-flushed breasts. Then, without warning they burst into flight, circling the field in a compact, twittering mass, only to return and alight in the spot they had just vacated.

For What It's Worth

By Keith C. Schuyler

Photos by the Author

LAST HUNTING SEASON was one of my most successful. What made it so enjoyable was the fact that I was able to go hunting more often than usual. Furthermore, the bow and arrow provided the only equipment I carried throughout the deer hunting seasons.

With apologies to Ned Smith, I am going to borrow the format he uses for his excellent column, "Gone for the Day," since I did keep a running record of my experiences during my attempts to take a deer in 1967. Bow hunters in my neighborhood are fortunate in that we have excellent deer hunting within a few miles of our homes. Consequently, it is no problem to be on stand at the opening hour and to get in a bit of hunting before tackling business chores for the day. And, there are the hours after.

The following is a personal record of deer hunts during 1967.

September 30 (opening day) — Five of us headed out before daylight to be on stand at my favorite spot on Huntington range about five miles from home. The day was slightly cloudy, but the air was still and conditions were favorable. One of the party later claimed he saw 21 deer, including one buck. But he didn't get a shot. At 7:20 a.m. we gathered together and made a few drives in our favorite areas. We had plenty of deer out, but our gang was just too small for effective driving. Nevertheless, Bill took two shots and Scott missed one deer. We took a stand near one of the areas we hunted in late afternoon, but none of us had any shooting. Once an area is hunted, it is best to leave it alone for at least a day.





A WHITETAIL IS hard to hit when it's watching the archer, even when there's no brush to interfere, as here.

October 2—Took a stand on a nearby mountain and watched a doe pass at 7:55 a.m. She kept pausing to scratch behind her left ear with a rear foot. Nice size. Wind was mostly from the southeast. A later afternoon stand on a saddle in the mountain produced nothing as the breeze shifted lightly to the west. Some mosquitoes.

October 3—Buck came into favorite stand, quartering from the right in early morning. He went into a thorn apple thicket, and it appeared as though it was all over. However, the 6-point broke out stealthily near me. He stopped about 15 yards away with his head and shoulders hidden behind trees. Angle bad, but deer was alerted. An attempt to drive an arrow in behind the shoulder was unsuccessful when the broadhead bounced off the deer's rib cage with no more than token damage. I should have waited or passed up the shot. Mosquitoes are getting bad. Stood at a nearby point in the late afternoon without results. Wind light.

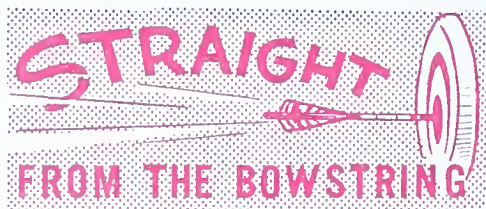
October 4 — Bill dropped in below the mountain stand until 7:30 a.m., when he made a slow drive toward the top of the mountain. Heard deer going around me, but they would not show themselves. Picked up son Brad after school in the afternoon to try Shickshinny Valley without results. Mosquitoes bad!

October 5—Dropped down below my regular stand about 75 yards for the morning hunt. At 6:50, a skunk wandered into near view and kept me company for quite some time. Alerted a button buck which had been attracted to a thorn apple tree. At one time, the deer was within 20 feet as a mosquito was chewing into my cheek and I was unable to move for fear of alerting any other deer in area.

October 5—Back on yesterday's stand, wind bad from southeast, variable. Button buck came in again at 7:50 a.m., upwind, and hung around for five minutes before drifting off to west.

October 6 — Three of us stood my favorite saddle as the day broke beautifully—and empty of deer. We went to a rendezvous near Scout Camp and met four other hunters for driving. Bill missed a doe at 25 yards on first drive. At least two deer escaped second drive, and five squeezed out the sides on the next try. Some loud-voiced nut pickers had taken over our favorite drive area, and only two small deer came in to Al. A few more deer seen, but we were spread too thin. Saw 18 turkeys while picking out an unproductive evening stand.

October 9—Back to the saddle at daylight, which broke rainy. Tried again



in the evening near Scout Camp. Seven turkeys came in to stand, and a doe and two yearlings came up at 6:10 p.m. Too far from home and too close to quitting time to risk a shot. Heard turkeys fly up to roost—may have alerted other deer in area.

October 10—Stood saddle in rain early. Nothing. Back along Huntington Creek in afternoon near Forks. Stalked three deer to within 80 yards, but wind shifted and deer spooked.

October 11—Foggy on Huntington range. Rabbit performed under thorn apple, but no deer showed. Picked Brad up after school and we took power line stand after spotting some turkeys in distance. Four deer waiting on my stand, and stalk failed. Small buck crossed field at 40 yards and I missed a walking shot. Deer spooked, but walked around in area until quitting time while alerting every other deer in the neighborhood, stomping and snorting.

October 12—Back to look for buck in morning and jumped two deer going in. They kept coming back and snorting until quitting time. Couldn't find lost arrow from yesterday.

October 13—Tried new stand in p.m. and cleared it out except for small stick between me and trail. Big doe came in at 6:20 and stopped behind stick to scratch her ear with hind hoof. Hit stick, of course, and arrow planed above deer's back.

October 14—Heavy rain discouraged most, but four of us were on stand at daylight. Doe worked in across field and provided me a 25-yard shot. Missed. Saw several other deer at a distance. Other hunters in group saw several more. Bill and John met us at 8:30 and we drove in heavy rain. One unsuccessful shot taken on first drive. Broke up early, took a stand near home. Heard and saw buck trying to tear a large bush apart in the distance.



COLUMNIST SCHUYLER and Stan Williams pedaled bikes four miles in rain to finish up the regular bow hunting season.

October 16—Back to the old stand in morning. Weather perfect, but nothing. Wife along for evening stand with same result.

October 17—Jumped two deer going into a stand near Scout Camp. Saw four more in distance. Tried again in evening and once more jumped deer going in.

October 18—Picked up Bill in rain and went to Cole's Creek area. Quiet. Picked up Brad in p.m. and went above town with Bill. Squirrel shooters had things stirred up. They drove two toward Bill but he couldn't see them. One started my way, changed mind.

October 19—Back to Scout Camp area. Jumped deer going in. Back in afternoon and once again jumped two going to stand. Saw five in far field. At 6:10, a small deer came in within

30 feet and fed for 20 minutes. Left without detecting me.

October 20—Went in before daylight to beat deer to stand near Scout Camp. Jumped one anyway. Quiet. Red fox almost walked over me, but didn't see him until he was moving away at 20 feet. Hemlock boughs prevented chance for a shot. Squirrels noisy.

October 21—Weather fine as four of us took stands near Cole's Creek. Saw six deer in field. Met seven more hunters at 9 a.m. by previous arrangement. Chip saw five on the first drive, and Al missed a doe on the second. Wayne missed. At lunch rendezvous, John pointed out 4-point buck. Took aim, but brush too heavy for good shot. Passed it up. Grouse hunters thick. Wayne hit big doe on power line drive. Set up another drive to fence her in and Ken downed his first deer ever, a button buck. Collected both his and Wayne's deer. Saw big buck and doe in distance on evening stand.

October 23—Three of us to Red Rock for early stand. A number of deer seen, but no shooting. Spent middle of the day squirrel hunting with 22 rifles. Back with bow for evening stand and gun hunters drove me out of small valley. Saw two deer in distance. Squirrel hunters moved in on Chip. They shot three grays and left. Two does came in and he missed at 30 yards.

October 24—To nearby mountain in p.m., heard deer at both bottom and top without sighting. To Cole's Creek stand in p.m.—nothing.

October 26—Heavy rain of yesterday continued through much of day. Tried stand near Scout Camp in p.m. and passed up two yearling deer and saw them join big doe which spooked.

October 27—Back to same spot for morning stand with no sightings. Tried



THIS 4-POINT was taken by Schuyler on a private preserve after the regular season closed.

for squirrels without success. Rode four miles with Stan on bicycles in p.m. to stand on Red Rock Game Lands. Saw 11 deer but none within range. Stan had one shot. Rain and wind dropped early blanket on end of special archery season.

Gunning Season

November 27 (first day of buck season)—Brad, Scott and I stood power line drive. Two does within about 15 feet. Nothing more for us, but rifle

shooting heavy. Scott and Brad carried guns.

December 2—Went solo to Sibley's. Cold. No deer. Stopped at Earl's and checked the bottom of the Heights. Saw three deer in field along hedge-row near quitting time.

December 9—Stood Heights in morning. Nothing. Joined by Bill in p.m. Nothing.

Antlerless Deer Season

December 11 (special antlerless deer season) — Roads covered with ice. Stopped to help driver with stuck car. Made me arrive late at stand. Settled for edge of planned hunting area. At 7:30 large doe appeared. Worked toward me off and on for 15 minutes. Repeatedly drew on her but trees prevented shot. At 15 yards, wind shifted and I had to make my try even though it required pinpoint shooting. Waited too long. Simply impossible to draw bow again after drawing too often and too long. Muscles out of steam. Woods noisy with ice snapping branches. Much gun shooting in area. Stopped by Jonestown and saw fawn.

December 12—Back near Jonestown in p.m. Large doe appeared walking behind saplings. Squeezed arrow between two small trees at 25 yards, but arrow merely parted neck hair. Six more appeared while retrieving arrow, but passed up huge doe since it was too close to quitting time.

December 15—Back to Jonestown for the extra-day hunt. Gun hunters shot nearby, and I tried to help them find wounded deer without success. Picked

up Brad in p.m. to take him to scene of action on December 12, but another hunter had taken over. Quite windy: Saw no deer.

December 16—Took Brad, Scott and Randy, off from school, to power line drive. Randy killed a doe, his first deer, with his rifle at 7:30. Shooting extremely heavy. In Orangeville area in p.m. and saw only a glimpse of one deer.

And so, except for a 6-point downed on a private reserve, my efforts with the bow in 1967 didn't produce any venison. The effort to do so, however, provided me with experiences that have a special value known only to those who just enjoy being a part of the action. There was much more to watching the skunk, the red fox, the turkeys, the squirrels and the many deer than can be squeezed into a column of this length. Those who have been there know what it is all about. Those who have not are encouraged to go looking.

It was with some trepidation that I exchanged my green camouflage suit for my red one to compete with the gunners. Yet, I had my chances and blew them. But in doing so, I gathered together some precious memories in association with some wonderful men and youngsters with guns, bows and arrows.

There was the post-Christmas archery season, but bad weather and a bum leg combined to keep me relatively quiet. Nevertheless, a few of us braved the wind, the snow and the cold on several days for the exhilaration that comes with just being a part of the total scene at any time, anywhere, in the great *out there*.

Got the Answer

The noctuid moth protects itself from the bat by jamming its radar with sounds.



FAMILIARITY WITH YOUR OWN RIFLE, gained through practice under safe conditions, is more important than caliber or rifle style.

Not a Nickel's Worth of Difference

By Don Lewis

Photos by Helen Lewis

THE LAST SHOT from the 264 Magnum barely missed the ragged hole made by the other four shots. As near as I could tell through the spotting scope, the group wasn't much over an inch. That's good shooting with any hunting rifle. After studying the target to see just where the group had formed over the bullseye, I removed my shooting glasses and ear protectors. As I began to make the rifle's owner a duplicate target, I heard an argument outside. Thinking it was just one of the three dozen arguments my two sons had every day, I went on with my work. It was then that two big guys carrying gun cases walked in.

"Tell this knucklehead what the

best darned big game rifle is," the first man almost shouted, as he pointed toward his companion. "I've been trying to pound the truth into his thick skull for five years, but he can't seem to learn. I thought if I brought him here, you might get him to see the light."

"I don't know if I can answer that. It's a pretty big question."

"What! You run a gunshop and work on all kinds of guns and don't know what the best all around rifle is for bear and deer? That's hard to believe. I figured you'd admit right off the bat that the ol' pump 30-06 beats them all. I never doubted you'd agree that my buddy is a knucklehead."

THE SHOOTER'S CORNER

"When you consider that your friend is well over six feet and I come out about five-nine, it's reasonable to assume that I'm going to refrain from name calling. Anyway, I haven't heard your friend's side of the story. I don't understand your question, and you haven't said why you think your particular choice is best. Thousands of deer and hundreds of bear are killed every year with all types and calibers of rifles. What makes you think that one rifle is best?"

"He's a big potato that's only half-baked because of his thick skin," threw in the second fellow. "I've done everything under the sun to show him why the lever action 300 Savage is the best big game rifle. I'm about ready to reduce him in size. I never—"

"Anytime your rundown frame feels it can stand the punishment, I'm ready."

"Wait a minute," I cut in. "If you guys want to do any reducing, get out of my shop. There's acres of land outside to feud on."

Both fellows broke out laughing, and the second man threw a monstrous arm around his pal and warned him that if he didn't buy a 300 Savage, he would tear him to pieces. These two fellows were the finest of friends.

"Let's get down to some serious business," I suggested, as they began to remove their rifles from the cases. "Just what are you two guys arguing about?"

"I'll tell you in short order," said the fellow with the Savage. "This guy here uses a 30-06 Remington pump gun. I don't care for a pump, so I use a 300 Savage in the 99 Model. I've gotten just as many deer as he has,

and I like the lever action rifle. He claims that the pump action has it all over any other type of rifle."

"It does, it does," chimed in Number One. "The '06 will outperform the 300 Savage the same way a weasel will outstep a possum. Look at the power difference. The 30-06 is twice as powerful, and the 180-grain bullet has to be far superior to the cornstalk cutting 300. I surely don't have to explain to you gun wizards that the slide action will toss shells in and out like a corn sheller. The pump has so many features over the others that it would take me the rest of the evening to enlighten you. I'll admit the 300 Savage is okay for head shots and pine squirrels."

"Sour grapes," retorted Number Two. "I've bagged just as much game with my 300 as you have with the trombone outfit you use. Explain that one, you muscle-bound varmint."

I could see that these two fellows couldn't resolve the issue if they had all night to argue. Each was so stubborn that he wouldn't admit the truth even if he knew better; I decided to get into the act.

"You're both talking nonsense," I cut in. "Each of you has done well with the rifle you like, but you still

ALL CARTRIDGES perform well under certain conditions; the idea is to pick the one for the job. Here are the 30-30, 270 Weatherby, 243 and 35 Remington.





THIS HUNTER prefers a slide-action '06 with variable power scope for deer—but uses binoculars rather than the scope to study area, a good safety practice.

want to win a senseless argument about something unimportant. As far as I'm concerned, if you took all the big game rifles and used them under ordinary hunting conditions, there wouldn't be a nickel's worth of difference among them. There is no perfect rifle—no rifle that is absolute. Any centerfire, including the high speed varmint guns, will kill any big game animal in North America under certain conditions. But this doesn't mean you can take a 30-30 and a 300 H&H Magnum and get equal results on a grizzly hunt. The 30-30 will sure enough fix a grizzly if everything is right, but the 300 H&H is more suitable for that type of game. At 200 yards, the 300 H&H 180-grain slug will still be traveling well over 2400 feet per second, with about 2400 foot pounds of energy. At that distance, the 170-grain 30-30 slug would be slowed down to around 1600 fps, and its energy would be less than half the 300 H&H's. In Pennsylvania, any of the high-powered rifles will give the

hunter all the power that he needs."

Our discussion lasted quite awhile. I pointed out the various things that I had learned from shooting and testing a good many high powers, but even though each man admitted there was some merit in what I said, I don't think I changed either man's mind. They're probably still hammering away at each other.

No All-Purpose Rifle

As I stated before, no one rifle fits the needs of every hunter. If it did, we would have only one rifle on the market, and who would want a situation like that? There are certain types of rifles and certain calibers that are more adaptable to some hunters than to others. I can't disagree with the man who claimed that the slide action is the fastest manual outfit on the market, but I heartily disagree when he claims that it's the best for everyone. I know shooters who can't use a pump gun. Their reflexes are not geared for that type of action. I don't care for the lever action rifle, but I'm aware that plenty of hunters use the lever with real success.

I believe that over 85 percent of the hunters who come to my shop think of big game rifles in terms of power. However, there is more to a good hunting rifle than just power. Instead of buying the biggest and most powerful rifle, it would be more to your advantage to buy what would fit best with your type of hunting. Would you want a 350 Magnum for shots under 100 yards at deer that could be easily killed with a 32 Special? Wouldn't the 270 Winchester fill the bill better in the open farming country than the slow 32 Special? A helpful hint in making a selection is first to determine what type of country you will be hunting in. Naturally, the more open the country, the longer the shots could be. To settle for short range fire would be defeating your purpose. The fast 6mm Remington, 264 Winchester Magnum, or 7mm Magnum would be my

pick here. If you have no particular choice of terrain, I still would choose the long range rifle. With a good variable power scope, the hunter can use such an outfit at either short or long range.

Best Approach

The best way to approach the caliber question is to remember that all current high powers have sufficient energy to take deer at 200 yards, and most shots are at closer range. So instead of fretting over the power problem, a fair amount of consideration should be given to the type of rifle you would like to carry. There isn't much difference among the various types so far as performance goes, but the individual hunter will be better off if he chooses the type of action that fits his philosophy of hunting. Since there are only three common types—bolt, pump and lever—the problem is not a staggering one, but an improper choice could be the paramount reason you are unsuccessful.

The bolt action is considered strongest (though some levers and pumps are stronger than some bolts). Its strength comes from the thick receiver ring on the front of the action and the heavy locking lugs on the bolt. The side rails going back to the rear of the action play no important part in an action's strength. I guess you could say that it's what's up front that counts. The bolt action receiver setup is fairly simple and is free of the extra linkage that other types of actions require. Since the shooter has the bolt handle in his hand, and its design gives good camming power, he can apply direct force to the bolt either in chambering or extracting. This is one reason the bolt action is the easiest to use handloads in. A shell that can't be put into a pump or lever due to its failure to hold its dimensions after resizing often can be used in a bolt operated rifle. I'm not suggesting that you use handloads that are so hard to chamber that you have to force them in, but the bolt rifle does give the handloader

this benefit. One of the bolt's biggest assets is in converting to higher powers. The Springfield, Enfield, or 98 Mauser can be rebarreled to almost any caliber, including the magnums.

The lever action appeals especially to many left-handed shooters who find the bolt awkward and difficult to use (though Savage's recent introduction of a left-handed M110 bolt gun may affect this). Some mighty fine rifles have the operating lever underneath. The Winchester 94, 71, 64 and 88 along with Marlin's Model 336 and Savage's 99, prove that the lever action rifle fills an important gap for the hunter.

The Marlin, Savage and Winchester 88 have side ejection, and a scope can be mounted directly over the action. However, with the top-ejecting Winchesters, it must be offset. I've scoped a number of 94's, and I find that the scope works equally well on either side. In fact, I suggest that a right-handed shooter try the scope on the right side and the left-handed shooter on the left side. This allows the shooter to press his face on the stock instead of holding it slightly away from it. To assure that the ejecting empty case will not hit the windage

A FEW OF HUNTERS' choices for deer: 270 Mauser bolt action; 348 Winchester lever gun; Remington slide actions in 35 and 308; and Savage bolt action 30-30.



knob on the side of the scope, I turn the scope (if it has cross hair or dot reticle) so that the elevation knob is on the outside of the rifle. This puts the windage knob on top when the scope is mounted on the left side of the gun. It's a little confusing to adjust, but some thought will keep you from turning the knobs the wrong way. The 94 may look a little ungainly when scoped, but it will add another 75 yards to the hunter's range, and at times that can be important.

300 No Pip-Squeak

The Savage 99 is a popular rifle. The famous 300 Savage cartridge appeared in the early 1920s, and when you mention a 300, most people think only of the Model 99. In case you agreed with the man who thought it was just for head shots and pine squirrels, a 150-grain bullet with suitable powder will attain a velocity of almost 2700 fps. This is about the velocity of the original 150-grain load that made the 30-06 popular—obviously no pip-squeak.

Marlin's 336 Model is a well balanced rifle, short and easy to get through the heavy brush. Available in 30-30, 35 Remington, 44 Magnum or 444 Marlin calibers, it is an excellent woods rifle.

The 88 Winchester is a comparatively new addition to the lever action group. It shoots well, and I think it's the best looking lever gun. I particularly like the one-piece stock. This gives it the necessary wood for proper bedding. In the 243-caliber, it not only makes a dandy chuck rifle but a good deer outfit. Like the Savage 99C, the 88 has a clip. This surpasses the old stuffing method used by other lever actions.

I suppose the pump action rifle comes closer to being the universal outfit than any of the rest. There's no question that the slide is quick and easy to use. Even an inexperienced shooter quickly can learn to crank shots from the pump rifle.

For years, the pump gun was commonly seen in only the 30, 32 and 35 Remingtons. These were plenty effective, but a good many fellows yearned for a pump rifle chambered for higher velocity, more powerful cartridges. When Remington introduced the 760 Model in 30-06 caliber, it was a day long awaited. Stripping off the tubular magazine and installing a clip was just icing on the cake. For the brush hunter, the carbine version has plenty to offer. I've shot some real tight groups with the 18½" barreled carbine. I suspect that this fine rifle will enjoy a long stay on the hunting scene.

So, what rifle to buy? What caliber is best? Who knows for sure? The decision belongs to the man who is about to buy a new rifle. Each caliber and type of rifle has its merits. A good bit of thought and study should be given to the purchasing of a new outfit, and I hope the buyer bases his decision on sound facts. The type of rifle will not make the gun successful; neither will the caliber. The prime factor is how well the hunter can use it. Being able to place a precise shot is much more important than caliber, per se. Perhaps a good bit of it is psychological; I don't know. If you and your rifle blend together, it's of little consequence what type or caliber you use. The real difference in results comes from the men who use them, for there's not a nickel's worth of difference among all of today's big game rifles.

Now We Know

Fireflies transmit mating signals by blinking the tiny lanterns built into their abdomens.

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